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Bureau of Land Management

ALTA EAST WIND PROJECT

PROPOSED
PLAN AMENDMENT AND FINAL
ENVIRONMENTAL IMPACT STATEMENT

Volume 2A

Chapters 4 through 6

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Proposed Plan Amendment & Final Environmental Impact Statement for the Alta East Wind Project

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4.1 Introduction to Chapter 4

The sections contained in Chapter 4 each assess the environmental consequences or impacts that would result from the implementation of the Alta East Wind Project (AEWP), as proposed, or the alternatives described in Chapter 2. These analyses consider direct, indirect, and cumulative impacts of the Proposed Action and alternatives, including both short-term impacts during construction and decommissioning, and long-term impacts during operations. This chapter also identifies mitigation measures to address adverse impacts and summarizes the residual and unavoidable adverse impacts on an issue-by-issue basis. The scope of the impact analyses presented in this chapter is commensurate with the level of detail for the alternatives provided in Chapter 2, Proposed Action and Alternatives, and the availability and/or quality of data necessary to assess such impacts. Baseline conditions for assessing the potential environmental impacts of the AEWP or alternatives are described in Chapter 3.

The methodology for this assessment conforms with the guidance found in the following sections of the Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA): 40 Code of Federal Regulation (CFR) Section 1502.24, Methodology and Scientific Accuracy; 40 CFR Section 1508.7, Cumulative Impact; and 40 CFR Section 1508.8, Effects. The CEQ regulations require agencies to "rigorously explore and objectively evaluate" the impacts of the alternatives. The methodologies used in the impact assessment also conform to the requirements of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., including the State CEQA Guidelines, Title 14 California Code of Regulations section 15000 et seq.

4.1.1 Format of Chapter 4 Analysis Sections

Each section of Chapter 4 generally follows the same basic format, as listed below:

- ***Introduction to Section***. Includes an overview of the content to be discussed in section.
- ***Section 1: Methodology for Analysis***. Provides project-specific context and methodology used for research, field surveys (if applicable) and analysis.
- ***Section 2: CEQA Thresholds of Significant and Criteria***. Identifies the specific Kern County California CEQA Implementation Document and Kern County Environmental Checklist thresholds for the subject.
- ***Sections 3–9: Impact Analysis***. This section includes a separate discussion for each of the seven project Alternatives (A – G). Each separate discussion includes the following elements:
  1. *Direct and Indirect Impacts*. Description of alternative-specific impacts.
     - Construction.
     - Operation and Maintenance.
     - Decommissioning.
  2. *CEQA Significance and Impact Determinations*. Analysis of alternative-specific impacts for each threshold identified in Section 2, above.
     - Construction.
     - Operation and Maintenance.
     - Decommissioning.

- ***Section 10: Cumulative Impacts***. This section includes a separate discussion for each of the seven project Alternatives (A – G). Each separate discussion includes the following elements:
  1. *Geographic Extent/Context.*
  2. *Existing Cumulative Conditions.*
  3. *Reasonably Foreseeable Projects.*
  4. *Construction.*
  5. *Operation and Maintenance.*
  6. *Decommissioning.*
  7. *CEQA Significance and Impact Determinations.* Analysis of alternative-specific impacts for each threshold identified in Section 2, above.
     - Construction.
     - Operation and Maintenance.
     - Decommissioning.
- ***Section 11. Mitigation Measures***. This section lists all mitigation measures for the project.
- ***Section 12. Residual Impacts after Mitigation***. This section describes any remaining impacts after mitigation.

4.1.2 Analytical Assumptions

The impacts analysis presented in this chapter was conducted with the following assumptions:

- The laws, regulations, and policies applicable to the BLM authorizing right-of-way (ROW) grants for renewable energy development facilities would be applied consistently for all action alternatives.
- The proposed facility would be constructed, operated, maintained, and decommissioned as described for each action alternative.
- Short-term impacts are those expected to occur during the construction phase, the first five years of the operation and maintenance phase, and during project decommissioning. Long-term impacts are those that would occur after the first five years of operation.

4.1.3 Types of Effects

The potential impacts from those actions that would have direct, indirect, and cumulative effects were considered for each resource. The terms “effect” and “impact” as used in this document are synonymous and could be beneficial or detrimental.

Direct effects are caused by the action and occur at the same time and place as the action; indirect effects are caused by the action and occur later in time or further in distance, but are still reasonably foreseeable (40 CFR 1508.8). Cumulative impacts are those effects resulting from the incremental, aggregation of impacts of an action when combined with other past, present, and reasonably foreseeable future actions (regardless of which agency or person undertakes such actions) (40 CFR 1508.7). Cumulative impacts could result from individually insignificant but collectively significant actions taking place over a period of time. Short-term impacts occur only

for a short time after implementation of a management action; for example, construction noise impacts from construction activities would be considered short term in nature. By contrast, long-term effects occur for an extended period after implementation of a management action; for example, operational noise during facility operations would be a long-term impact, as it would last for as long as the facility is in operation.

Section 1502.16 of the CEQ regulations forms the scientific and analytic basis for the comparisons of alternatives. This chapter consolidates the discussions of those elements required by sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA which are within the scope of this Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR), and as much of Section 102(2)(C)(iii) as is necessary to support the comparisons. The discussion includes the environmental impacts of each of the alternatives, including any adverse environmental effects which cannot be avoided, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented.

4.1.4 Resources and Resource Uses Not Affected or Present in the Action Area

Resources, BLM program areas, or other aspects of the human environment that are not affected or present in the AEWP area include: wild and scenic rivers; monuments, and national recreation areas; cooperative management and protection areas; outstanding natural areas; forest reserves; back country byways; wetlands; and wild horses and burros.

4.1.5 Mitigation Measures Included in the Analysis

For impacts identified in the resource sections of this chapter, mitigation measures have been developed that would be implemented during all appropriate phases of the project from initial ground breaking to operations, and through closure and decommissioning. Both Section 1508.20 of the CEQ regulations for implementing NEPA and the State CEQA Guidelines §15370 define mitigation as:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action;
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

The mitigation measures analyzed and included in this Proposed Plan Amendment (PA) and Final EIS/EIR include a combination of the following:

- Measures that have been proposed by Alta Windpower Development LLC (Project Proponent);
- Regulatory requirements of other federal, State, and local agencies; and

- Additional BLM-proposed mitigation measures, standard ROW grant terms and conditions, and best management practices (BMPs).
- Additional County-prepared mitigation measures.

These requirements are generically referred to as "mitigation measures" throughout this Final EIS/EIR. Under NEPA, agencies are required to evaluate potential/proposed mitigation measures to assess their effect on the potential impacts of the AEWP. Unlike NEPA, CEQA requires that mitigation measures be identified to reduce or avoid significant impacts. Under CEQA significant impacts are identified based on significance determination that must be made for each adverse impact identified in an EIR. The determinations are based on significance criteria, adopted by the Kern County Board of Supervisors for each environmental resource area. The significance criteria serve as a benchmark for determining if a project would result in significant adverse environmental impacts when evaluated against r existing environmental conditions. Impacts are assessed relative to each impact criterion to determine whether the project would have no impact, a less-than-significant impact, less than significant with mitigation, or a significant impact. Impacts are quantified, and the determination of an impact's significance is derived from standards set by regulatory agencies on the federal, State, and local levels; knowledge of the effects of similar past projects; professional judgment; and plans and policies adopted by governmental agencies. Under CEQA, if impacts remain significant after all feasible mitigation is considered, i.e., continue to exceed the threshold of significance identified in the impact criteria, the analysis concludes that the impact is significant and unavoidable.

For purposes of meeting NEPA requirements, many of the specific mitigation measures that fit within the categories identified above are required by agencies other than the BLM, and their implementation will be regulated/enforced by those other agencies, but will nevertheless be incorporated into any ROW grant for the Proposed Action. For instance, the Endangered Species Act (ESA) Section 7 mitigation measures imposed by the United States Fish and Wildlife Service (USFWS) will be included in the Record of Decision (ROD) for the Project, as will any National Historic Preservation Act (NHPA) Section 106 mitigation measures. The Project Proponent will be required by the ROD and the ROW grant, if approved, to comply with the requirements of any applicable agencies (see, e.g., 43 CFR 2805.12(a) (Federal and state laws and regulations), and (i)(6) (more stringent State standards for public health and safety, environmental protection and siting, constructing, operating, and maintaining any facilities and improvements on the ROW)). Any non-compliance with implementation of these other federal, State, or local requirements may affect the approval status of the ROD and ROW grant. Finally, in some instances, the BLM identified potential impacts to public land resources that would not otherwise be the subject of mitigation measures required by these other agencies. In these instances, individual mitigation measures have been developed by the BLM. If a ROW is granted, these mitigation measures may be incorporated into the ROW grant and, if so, will be monitored and managed by the BLM. In addition, standard terms and conditions for approval of the use of public land will be identified in the ROD and incorporated into the proposed ROW grant and therefore will be enforced by the BLM as part of any ROW grant approved for the AEWP.

4.1.6 Cumulative Scenario Approach

This Final EIS/EIR analyzes the cumulative impact of the construction, operation and maintenance, closure and decommissioning of the elements of the AEWP and alternatives, taking

into account the effects in common with other past, present, and reasonably foreseeable future actions. The cumulative effects analysis highlights past actions that are closely related either in time or space (i.e., temporally or in geographic proximity) to the AEWP, present actions that are ongoing at the same time this Final EIS/EIR was being prepared; and reasonably foreseeable future actions, including those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

The intensity, or severity, of the cumulative impacts analysis considers the magnitude, geographic extent, duration, and frequency of the effects (CEQ, 1997). The magnitude of the effect reflects the relative size or amount of the effect; the geographic extent considers how widespread the effect may be; and the duration and frequency refer to whether the effect is a one-time event, intermittent, or chronic (CEQ, 1997). Varying degrees of information exist about projects within the cumulative scenario. Therefore, for resource areas where quantitative information was available, a quantitative analysis is provided; however, if said level of detail was not available, a qualitative analysis is provided. If the AEWP and alternatives would have no direct or indirect effects on a resource, the Final EIS/EIR does not analyze potential cumulative effects on that resource. See, for example, Section 4.1.4, Resources and Resource Uses Not Affected or Present in the Action Area.

Table 4.1-1 (located at the end of this section) provides a comprehensive listing of all foreseeable projects that could contribute to a cumulative impact on the environment. Projects listed include renewable energy projects located on BLM-administered lands and/or private lands, other BLM actions/activities, and projects identified by local governments; including Kern County and Los Angeles County. Table 4.1-1 presents the project name and owner, location, type, status, total acres, and a brief description of each project, to the extent available. Most of the projects listed in Table 4.1-1 have been, are being, or would be required to undergo their own independent environmental review under NEPA or CEQA or both, as applicable. Figure 4.1-1 in Appendix A shows the location of each of the projects listed in Table 4.1-1 using a corresponding identification number. Those projects where the identification number shown as an asterisk (*) are outside the area covered by Figure 4.1-1.

For the AEWP, the cumulative scenario for each issue area includes all or a portion of the projects identified in Table 4.1-1. Each resource or BLM program area analysis includes the appropriate cumulative analysis impact area (which is the geographic extent for each cumulative effects resource/issue), elements to consider, and which renewable projects, other BLM-authorized actions and other known and reasonably foreseeable actions or activities that are located or would occur within the cumulative analysis impacts area.

With the exception of climate change, which is a global issue, the BLM has identified the Ridgecrest Field Office region as the largest area within which cumulative effects should be assessed. However, as noted by BLM, the geographic area presented in each resource or BLM program area is mainly described as Kern County, which is not solely synonymous with the Ridgecrest Field office area or the Ridgecrest Resource Area. Within the field office region, the specific area of cumulative effect varies by resource. For each resource, the geographic scope of analysis is based on the topography surrounding the AEWP and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects often extends beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the Proposed Action and alternatives.

In addition, each project in a region has (or will have) its own implementation schedule, which may or may not coincide or overlap with the AEWP's schedule. This is a consideration for short-term impacts from the AEWP. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the AEWP.

Renewable Energy Projects Included in the Cumulative Scenario

Many renewable energy projects have been proposed on BLM-administered land, State land, and private land in California. As of June 2011, there were 281 renewable projects totaling 25,900 MW proposed in California in various stages of the environmental review process or under construction (CEC, 2011). Of these 281 renewable projects, 7 projects have been proposed in BLM's Ridgecrest Field Office District; these projects are identified in Table 4.1-1 (see those identified by footnote number 1 in the "Project Type" column). It should be noted that the large renewable projects now described in applications pending before the BLM and/or on private land are competing for utility Power Purchase Agreements, which will allow utilities to meet State-required Renewable Portfolio Standards. Not all of these projects listed will complete the environmental review process, and not all projects will be funded and constructed for the following reasons:

- Not all developers will develop the detailed information necessary to meet the BLM regulatory requirement. Preparing complete and detailed plans of development (PODs) is difficult, and completing the required NEPA and CEQA documents is especially time-consuming and costly.
- As part of approval by the appropriate Lead Agency under NEPA and/or CEQA (generally the BLM and/or local jurisdiction), all regulatory permits must be obtained by the applicant or the prescriptions required by the regulatory authorities incorporated into the Lead Agency's license, permit or ROW grant. The large size of these projects may result in permitting challenges related to endangered species, mitigation measures or requirements, and other issues.
- Also after project approval, construction financing must be obtained (if it has not been obtained earlier in the process). The availability of financing will be dependent on the status of competing projects, the laws and regulations related to renewable project investment, and the time required for obtaining permits.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
1	Edwards Air Force Base (Department of Defense U.S. Air Force)	305 E. Popson Ave. Edwards AFB, CA 93524	Air Force Base	Existing	301,000	Federal Air Force Base for research, development, and test and evaluation of aerospace systems for the United States and its allies. Operates the U.S. Air Force Test Pilot School and supports non-military government agencies.
2	Antelope Transmission Project Segments 1-3 (SCE)	Between City of Lancaster and City of Santa Clarita, near Acton, California, and in the Monolith and Mojave areas	Transmission Line	The project would occur in three segments: Segment 1 was completed in 2009. Segment 2 was completed in 2010. The first portion of Segment 3 has been completed. Construction of the second portion of Segment 3 has not begun and no schedule for completion has been developed yet.	N/A	SCE's Antelope Transmission Project would occur in three sequential segments: Segment 1 (Antelope-Pardee 500-kV T/L) of the Project involves the construction of a new 25.6-mile 500-kV transmission line between SCE's existing Antelope and Pardee Substations. Segment 2 (Antelope-Vincent 500-kV T/ L) consists of a new 17.8-mile 500-kV transmission line connecting SCE's existing Antelope Substation with the Vincent Substation. Segment 3 (Antelope-Tehachapi T/L) consists of two phases. The first phase includes construction of a new 26.1-mile, 500-kV transmission line connecting SCE's existing Antelope Substation to a proposed substation (Substation 1) in the Mojave Area. The second phase would consist of a new 9.4-mile, 220-kV transmission line from the proposed Substation 1 to a proposed substation in the Monolith Area (Substation 2).

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
3	Tehachapi Renewable Transmission Project Segments 4-11 (SCE)	Southern Kern County, portions of Los Angeles County, including the ANF and U.S. Army Corps of Engineers lands, and southwestern San Bernardino County, California	Transmission Line and substation facilities	The Final EIR for the TRTP was approved on December 17, 2009. Construction of the project began in Fall of 2010 and is expected to end in 2015.		Segments 4 through 8, as well as Segments 10 and 11 of the TRTP are transmission facilities including new transmission lines and numerous rebuilding of existing transmission lines; Segment 9 addresses the addition and upgrade of substation facilities.
4	Manzana Wind Energy Project – Formerly PdV (Power Partners Southwest, LLC)	Willow Springs Area, eastern Kern County	Wind Energy	Existing	5,820	Wind energy development with a generating capacity of 300 MW by 300 WTGs. The Final EIR was completed in February 2008 and certified by the Board of Supervisors in July 2008. Construction began in December 2010.
5	Alta–Oak Creek Mojave Wind Project (Terra-Gen)	Tehachapi	Wind Energy	Existing	9,120	Wind energy development with a generating capacity of 657 MW by 248 WTGs. The Final EIR was certified by the Board of Supervisors in December 2009. Commercial operation began in January 2011.
6	Coram Brodie Wind Project (Coram, Inc.)	Tehachapi	Wind Energy	Existing	60	Wind energy development with a generating capacity of 3 MW. A Mitigated Negative Declaration was prepared and the project approved by the Board of Supervisors in May 2010. Construction began in 2010.
7	Pine Tree Wind Development Project	Tehachapi	Wind Energy	Existing	N/A	Wind energy development with a generating capacity of 120 MW. The Final EIR was certified in April 2005 and the facility is currently in operation.
8	Sky River Wind Energy Facility (NextEra)	Tehachapi	Wind Energy	Existing	N/A	Wind energy development with a generating capacity of 77 MW. Began commercial operation in 1991 and operates with 342 225-kW Vestas V27 WTGs.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
9	PdV Infill Project	Tehachapi	Wind Energy	The Final EIR for the PdV Wind Project was amended for this project and was approved by the Board of Supervisors in March 2010. Construction of this project is expected to be completed in 2012.	2,422	The infill project entails the relocation of turbines to private lands adjacent to the approved PdV Wind Project. Expanded the approved PdV Wind Project boundary and reconfigured the location of the WTGs, but did not include any increase in the number of WTGs or its MW capacity.
10	Pacific Wind Energy Project (enXco)	Tehachapi	Wind Energy	The Final EIR was completed in August 2010 and was certified by the Kern County Board of Supervisors in October 2010. Construction is scheduled to begin in late 2011.	8,300	Wind energy development with a generating capacity of 151 MW by 151 WTGs.
11	Pacific Wind Infill Project (enXco)	Tehachapi	Wind Energy	The Addendum to the Pacific Wind Energy Project Final EIR was approved by the Board of Supervisors in April 2011. Construction began in 2011.	1,325	Refinement of the Pacific Wind Energy Project to relocate WTGs onto land adjacent to the Pacific Wind Energy Project.
12	Windstar Energy Project (Western Wind)	Tehachapi	Wind Energy	A Mitigated Negative Declaration was prepared and the project approved by the Board of Supervisors in April 2009. Construction began in 2009.	1,007	Wind energy development with a generating capacity of 65 MW.
13	Alta Infill II Wind Energy Project	Tehachapi	Wind Energy	Project approved October 2011.	9,780	Proposed generation of up to 750 MW of electricity from up to 250 WTGs. Includes a 230-kV generation-tie transmission line, security fencing, access and service roads, an O&M facility, and laydown areas.
14	Tylerhorse (Power Partners Southwest LLC)	Tehachapi – located on BLM-administered land	Wind Energy	Notice of Intent was published July 2011.	1,200	A proposed 60 MW wind project located 5 miles west of Highway 14, 12.5 miles south of Highway 58, 8 miles north of State Route 138.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
15	Catalina Renewable Energy Project (enXco)	Tehachapi	Wind and Solar Energy	Project approved in December 2011.	5,723	Proposed generation of up to 250 MW of electricity from up to 120 WTGs and up to 150 MW of solar energy from photovoltaic solar arrays co-located on 5,723 acres of a 7,400-acre area in unincorporated Kern County. Includes wind turbines, solar arrays, substations, an O&M facility, above and below-ground transmission lines, dirt access roads, concrete batch plants, and a 230-kV generation-tie transmission line.
16	Lower West Wind Energy Project	Tehachapi	Wind Energy	Project approved in July 2011.	185	Proposed generation of up to 14 MW of electricity from up to 7 WTGs. Includes wind turbines, meteorological tower, above and below-ground feeder lines, and dirt access roads. Intersection of Jackpine Avenue and 90th St. West, one mile east of Tehachapi–Willow Springs Road and three miles south of Oak Creek Road.
17	Morgan Hills Wind Energy Project	Tehachapi	Wind Energy	Project approved in October 2011.	3,773	Proposed generation of up to 230 MW of electricity from up to 230 WTGs on 700 acres of a 3,773-acre area in unincorporated Kern County. Includes wind turbine generators with foundation pads, crane pads, permanent access roads, switch yard and substation, temporary construction lay-down yards, parking areas, an O&M building, one temporary concrete batch plant, transmission lines, and an underground power collection system.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
18	Rising Tree Wind Energy Project	Tehachapi	Wind Energy	Application for project was submitted in July, 2010. Notice of Intent for the project was published in January, 2011.	2,746	Proposed generation of up to 234 MW of electricity from up to 78 WTGs. Includes wind turbine generators with foundation pads, crane pads, permanent access roads, switch yard and substation, temporary construction lay-down yards, parking areas, a 10,000 square foot O&M building, one temporary concrete batch plant, transmission lines, and an underground power collection system.
19	North Sky River Wind Energy Project and Jawbone Wind Energy Project	Tehachapi	Wind Energy	Project approved in September 2011.	1,330	Proposed generation of up to 325.5 MW of electricity from up to 150 WTGs. Includes wind turbine generators with foundation pads, crane pads, permanent access roads, collector substation, an O&M facility, one temporary concrete batch plant, communication system cables, an underground power collection system, and a 230-kV generation-tie transmission line.
20	Clearvista Wind Project	Tehachapi	Wind Energy	Project approved in September 2011.	226	The Clearvista Wind Project would generate up to 40 MW of electricity from up to 14 WTGs. The facility includes above and below-ground transmission lines, security fencing, and dirt access roads. The project proposes a 230-kV generation-tie transmission line to connect to SCE's Highwind Substation.
21	Avalon Wind Farm (enXco)	Tehachapi	Wind Energy	Notice of Preparation scheduled to begin circulation in April 2012.	10,000	Proposed generation of 255 MW of wind power on ZCC Map 197, 198, 214, 215, 216. Power generated would tie into the SCE Windhub Substation.
22	Monte Vista Solar (Edison Mission Energy)	Purdy Ave. & 10th Street East	Solar Energy	Notice of Preparation of Draft EIR March 2010	1,040	Project would generate 126 MW of electricity using solar PV technology. The project proposes a 10-mile 66-kV generation-tie transmission line to connect to SCE's Windhub Substation.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
23	Distributed Solar Projects	In the vicinity of Mojave and California City	Solar Energy	Eight sites were approved in December 2011 and January 2012	1,709	Ten individual solar projects for ten sites totaling 1,709 acres that would generate up to 214 MW through solar PV power. Power generated would connect into the local grid using existing overhead power lines. The ten projects are Rosamond One and Two, Tehachapi Solar, Tehachapi Solar 2, Columbia, Columbia Two, Columbia 3, Rio Grande, Great Lakes, and Barren Ridge 1.
24	Mojave Solar Park (Cal West Energy)	1300 block of Hwy 58	Solar Energy	Proposed	29	Distributed solar project
25	Sinarpower Inc	South of Oak Creek Rd.	Solar Energy	Proposed	17.5	Distributed solar project
26	The Aeromen LLC	2 miles west of Mojave on Oak Creek	Solar Energy	Application received March 2011	237	Four solar projects proposed on 237 acres.
27	Tehachapi Sanitary Landfill Buffer (Kern County Waste Management)	Tehachapi	Landfill	Application received November 2010	N/A	Landfill request to increase buffer zone.
28	Mojave Landfill (Kern County Waste Management)	Mojave	Landfill	Reviewing Notice of Preparation	N/A	Expansion to regional landfill.
29	Rosamond Solar (SGS Antelope Valley Development, LLC)	9 miles west of Rosamond	Solar Energy	The Final EIR was completed in October 2010. The project approved by the Board of Supervisors in November 2010.	1,330	Project would generate up to 120 MW of electricity using solar PV technology. The project proposes a 2.5-mile 230 kV generation tie-line to tie into the planned SCE Whirlwind Substation.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
30	Antelope Valley Solar Project	9 miles west of Rosamond in Kern and Los Angeles Counties	Solar Energy	The Final EIR was completed in June 2011. The project approved by the Board of Supervisors in August 2011.	4,782	Project would generate 650 MW of electricity using solar PV technology in both Kern and Los Angeles Counties. The project proposes a 9-mile 230 kV generation tie-line to tie into the planned SCE Whirlwind Substation.
31	High Desert Solar Project	Purdy Avenue, south of the community of Mojave	Solar Energy	Notice of Preparation/Initial Study released in April, 2011	154	Project would generate up to 18 MW of electricity using solar PV technology.
32	Nautilus Solar	One mile east of SR 14 outside of Cantil and on the north side of SR 58 west of 140th St.	Solar Energy	Notice of Preparation/Initial Study released in June, 2010	139	Two 9 MW solar PV facilities on separate sites. Would interconnect with the existing SCE distribution line.
33	Ridge Rider Solar Park (Global Real Estate Investment Partners, LLC)	3.5 miles northwest California City	Solar Energy	Notice of Preparation/Initial Study released in March, 2010	475	32 MW solar PV facility. Power would interconnect with LADWP's Barren Ridge Switching facility on an underground/overhead gen-tie line.
34	Willow Springs Solar Array (First Solar)	3 miles north of SR 138 and 9 miles west of Rosamond	Solar Energy	Notice of Preparation/Initial Study released in March, 2010	1,402	Project would develop a 160 MW solar PV facility on active or fallow agriculture. The project proposes an 11-mile 66 kV generation tie-line to tie into the SCE Antelope Substation.
35	Ridgecrest Recycling & Sanitary Landfill (Kern County Waste Management)	Two miles west of City of Ridgecrest	Landfill	Draft EIR was released for public review June 2010	105	Vertical expansion over the existing unlined refuse disposal area, horizontal expansion through the installation of a landfill liner for new waste cells. Lifespan of the project is 31 years.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
36	Soledad Mountain Project (Golden Queen Mountain Co., Inc)	Two miles west of SR-14 and south of Silver Queen Road	Mining	Final EIR was published in March 2010	1,440	An open pit, heap leach mining operations for aggregate and construction materials. Project was originally approved in 1997 but has been revised to be smaller in scope than the project as approved in 1997.
37	Fresh Winds International Ltd. (WRA Engineering)	NEC Rutan & Purdy; Mojave	Zone Change to R-1	Application received June 2009	40	Zone change
38	Larry Federiko	12433 United St., Mojave	Commercial	Application received May 2009	8	Request to operate salvage/junk yard
39	Mojave 58 Investments/McIntosh & Associates	E/S SR 58 at Altus Ave.	Industrial	Application received, modification to allow phasing requested November, 2010.	130	Industrial Plan
40	North Star Properties/ Judson	Westside Koch at Douglas Ave, Mojave	Residential	Application under review	50	Cluster Combining District Plan (residential and commercial developments)
41	Greg Lansing/Cagle	N/S of Y of SR14 and SR58, Mojave	Residential	Application under review	510	Change the Mojave Specific Map Plan Designations Resources Management (8.5, 8.5-2.5) and Residential (5.4-2.5 maximum 4 units/acre) to Residential 5.3 (Maximum 10 units/acre). 465 square-feet lots
42	Julio Segura	16026/16032 "L" St, Mojave	Residential	Application under review	N/A	Plan for 2 Duplexes
43	Jones and Delbert and Tracy (GPS Services)	13518 Tehachapi Willow Springs Road	Zone Change	Application under review	19	Zone change from Estate (20) to Agriculture
44	AV Solar Ranch One (First Solar)	Northern LA County, west of Antelope Valley	Solar Energy	Final EIR was published in August 2010. Project was approved in December, 2010.	2,093	Project is a 230 MW solar PV facility with a 4.25-mile gen-tie to the SCE Whirlwind Substation.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
45	Blue Sky Wind Energy (NextEra)	Northern LA County, southwest of Antelope Valley	Wind Energy	Early environmental review	7,500	225 MW wind energy project
46	Alpine Solar Project (NRD)	Northern LA County, west of Antelope Valley	Solar Energy	An MND was adopted and project was approved. Applicant has requested use of an additional 35 acres	800	92-MW solar PV project
47	Ruby Solar Project (Ruby Solar LLC)	Northern LA County, west of Antelope Valley	Solar Energy	Early environmental review	160	20 MW solar PV project
48	Wildflower Green Energy Farm (Element Power)	Northern LA County southwest of Antelope Valley	Wind Energy	Early environmental review	3,787	300 MW wind energy project
49	California High-Speed Rail	Los Angeles to San Francisco, crossing the Tehachapi Wind Resource Area	Railroad	Program level review began in 2002 and ended in 2005. Project level review began in 2007. Bakersfield to Palmdale EIR team presented a Preliminary Alternatives Analysis in September, 2010.	N/A	High-speed rail line with 800 miles of track. Portion crossing the Tehachapi Wind Resource Area is an 85-mile line from Bakersfield to Palmdale. This section travels southeast and roughly parallels highways 58 and 14. Stations will be in the terminus cities of Bakersfield, where it will connect with the Fresno-to-Bakers-field section, and Palmdale, where it will connect with the Palmdale-to–Los Angeles section.
50	Lehigh Southwest Cement Company	3 miles northeast of Tehachapi	Cement Company	Existing	1,000	Distributed solar project
*	Wind Source Inc.	On AEWP Site (T32S R35E Section 28)	Wind Energy	Closed in 1996	80	Wind Source Inc. was a wind project approved in 1984 (CACA 013772) and terminated in 1996. All of the equipment from the facility has been removed and the site decommissioned.
*	Ridgecrest Solar Power Project	5 miles southwest of Ridgecrest	Solar Energy	Application on hold pending additional redesign	N/A	Solar energy project likely to be using PV. Undergoing redesign.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
*	Goldtooth South Project	Panamint Valley, Inyo County	Mining	Environmental Assessment was published in June, 2011	2,363	Project would result in an extension of the Goldtooth Mining Pit, an extension of the waste rock dump area, an extension of the topsoil stockpiles. Project would result in the surface disturbance of an additional 94 acres within the existing 2,363-acre Permit Area.
*	Hay Ranch Water Extraction and Delivery System	East of U.S. Highway 395 in Rose Valley	Water Pipeline	Environmental Assessment was public in December 2008.	55	Approximately 9 linear miles of pipeline and associated electric power substation, pumping equipment, and holding tanks.
*	Deep Rose Geothermal Exploration Well Access Road (Deep Rose LLC)	McCloud Flats, Mount Diablo, Inyo County	Geothermal Energy	ROW for road access and water access approved July 2006	NA	BLM approved a ROW for approximately 12 miles of access road and water pipeline to allow the development of a geothermal exploratory well field on State land. Deep Rose would drill up to four exploratory wells to test the viability of geothermal resources at this location.
*	Furnace Creek Road Route Designation	Near Highway 264, Inyo County	Roadway	Scoping period for open until August 31, 2011.	N/A	Designate as either open or closed up to approximately 2.5 miles of Furnace Creek Road which crosses BLM-administered land up to the BLM/USFS boundary.
*	Lacey-Cactus-McCloud Allotment	East of Olancha, Inyo County	Grazing allotment	Environmental Assessment was published in July, 2011 and the 30 day comment period on the proposed grazing allotment closed in August 2011.	165,140	BLM is proposing to issue one 10 year term permit on the Lacey-Cactus-McCloud Allotment.

Table 4.1-1. Cumulative Projects List

ID#	Project Name & Ownership	Location	Project Type	Status	Acres	Project Description
*	Proposed geothermal leasing	East of the Inyo National Forest, west of the China Lake Naval Air Weapons Station, north of Little Lake, and south of the South Haiwee Reservoir	Geothermal Energy	BLM is writing a Draft Environmental Impact Statement	22,040	The BLM is considering whether none, all, or part of the Haiwee Geothermal Leasing Area should be made available for geothermal exploration and development. In conjunction with this analysis, the BLM will evaluate the three pending lease proposals that total approximately 4,500 acres of federal mineral estate within the area.
*	Naval Air Weapons Station China Lake	North of Ridgecrest in Kern, San Bernardino and Inyo Counties	Military	Existing	1,100,000	Naval base that provides and maintains land, facilities and other assets that support the Navy's research, development, acquisition, testing and evaluation of weapons systems for the warfighter.

Notes: Sources for non-Kern County Projects: BLM, 2011k through BLM, 2011o; BLM, 2005

4.2 Air Resources

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on air quality. The applicable environmental and regulatory settings are discussed in Chapter 3.2 of this Final EIS/EIR. Mitigation measures that would reduce impacts, where applicable, are also discussed.

Information in this section is based on the emissions calculations and impacts assessment reported in the Air Quality and Greenhouse Gas Technical Report for the AEWP prepared by CH2MHILL in April 2011 (provided in Appendix G and incorporated by reference herein as CH2MHILL, 2011), and based on additional staff calculations determined to be necessary after independent project review.

Potential Project related air quality impacts on the environment and human health during construction and operation of the AEWP are discussed using applicable thresholds of significance.

4.2.1 Methodology for Analysis

Potential effects on air resources from the AEWP and alternatives may occur as a result of emissions of criteria pollutants from the construction, operation and decommissioning of the AEWP and alternatives. To assess those effects quantitative emission estimates for criteria pollutants were prepared based on construction and operation assumptions provided by the AEWP Proponent in order to evaluate the significance of the AEWP and alternatives. Additionally, qualitative analyses were performed to determine the significance of potential hazardous air pollutant emissions and odors from the AEWP and alternatives. Emissions and impacts of decommissioning of the AEWP were analyzed qualitatively as well.

4.2.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on air quality if it would:

AR-1 Conflict with or obstruct implementation of the applicable air quality plan;

AR-2 Violate any air quality standard as adopted in (c) i, (c) ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation;

AR-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Specifically, implementation of the project would have a significant impact on air quality if it would exceed any of the following adopted thresholds:

Eastern Kern Air Pollution Control District
Operational and Area Sources:
ROG - 25 tons per year
NOx - 25 tons per year
PM10 - 15 tons per year
Stationary Sources (determined by District Rules) - 25 tons per year;

AR-4 Expose sensitive receptors to substantial pollutant concentrations;

AR-5 Create objectionable odors affecting a substantial number of people.

The Notice of Intent/Notice of Preparation/Initial Study (Appendix J) indicated that the AEWP may have a potentially significant impact with regard to cumulatively considerable net increases in criteria pollutant emissions within the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District. Further review of the AEWP description indicates that the potential project emissions from the AEWP within the San Joaquin Valley Unified Air Pollution Control District, which is over 20 miles west of the AEWP site, would be negligible. AEWP emissions that could occur within SJVAPCD jurisdiction would include portions of construction or operation employee travel trips where such employees live more than 20 miles west of the site, within the San Joaquin Valley Air Basin (SJVAB); and could include some delivery truck travel emissions. However, based on the experience of other local wind projects most of the delivery trucks are assumed to come from the directions other than the SJVAPCD. Therefore impacts within the SJVAB would be less than significant and have not been addressed further in this document.

Kern County CEQA thresholds incorporate the regional thresholds adopted by the Eastern Kern Air Pollution Control District (EKAPCD), provided below in Table 4.2-1.

Table 4.2-1. Air Quality Regional Thresholds – EKAPCD

	Construction or Operation	
Criteria Pollutant	**Tons/Year**	**Lbs/Day**
Carbon Monoxide (CO)	—	—
Nitrogen Oxides (NOx)	25	137[1]
Particulate Matter (PM10)	15	—
Fine Particulate Matter (PM2.5)	—	—
Sulfur Oxides (SOx)	27	—
Volatile Organic Compounds (VOC)	25	137[1]

Source: EKAPCD 1999 Guidelines for the Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended.
"—" = No Threshold Identified
[1] Indirect vehicle trip emissions only. The AEWP does not create indirect trip generation, such as a housing project, so the AEWP does not have the potential to create significant impacts for these EKAPCD significance criteria.

In addition, the USEPA's 2011 general conformity applicability thresholds (40 CFR Part 93) are applicable to the AEWP's emissions of nitrogen oxides (NOx) and volatile organic compounds (VOC), since the AEWP site area is designated as former subpart 1 nonattainment of the federal ozone standard, and NOx and VOC are precursors to atmospheric ozone generation (USEPA, 2011d). It is noted that the general conformity applicability thresholds for NOx and VOC are 100 tons/year, which are less stringent than the thresholds established by the EKAPCD (25 tons/year).

4.2.3 Alternative A: Project

4.2.3.1 Direct and Indirect Impacts

Conformance with Air Quality Plans

The EKAPCD developed an ozone redesignation request and maintenance plan for the federal 1-hour ozone standard in 2003 (EKAPCD, 2003). The eastern portion of Kern County was determined to be in attainment of the 1-hour ozone standard by the USEPA in 2004 and deemed a maintenance area (FR, 2004). The EKAPCD is in the process for being reclassified for the 8-hour ozone standard and the USEPA is reconsidering the level of the federal 8-hour ozone standard, so the initial 8-hour ozone standard attainment plan is not yet available due to the USEPA. The 1-hour ozone maintenance plan remains in force until such time as the 8-hour attainment plan is approved. The 1-hour ozone maintenance plan requires no new control measures for maintaining attainment of the 1 hour standard.

The EKAPCD California Clean Air Act Ozone Air Quality Attainment Plan was approved by the CARB on February 18, 1993. The EKAPCD's most recent Annual Implementation Progress Report for this attainment plan was completed in 2005 (EKAPCD, 2005), and will likely be updated at the same time as the initial federal 8-hour ozone attainment plan is due. The implementation progress report notes that the area is overwhelmingly impacted by upwind transport, with the majority of the ambient ozone pollution in the area due to pollutants that are transported by wind from the San Joaquin Valley and South Coast Air Basins. The implementation progress report indicates that no additional control measures are required for attainment of the ozone CAAQS, attainment will occur by reducing the pollution in these adjacent air basins.

Therefore, both the federal and State ozone management plans require no new control measures that would affect the AEWP. Compliance with existing EKAPCD rules and regulations during construction and operation would ensure conformance with the approved EKAPCD air quality management plans.

The EKAPCD adopted a final staff report on September 13, 2007 for the rule development schedule to comply with Senate Bill 656 (Sher) to reduce public exposure to PM10 and PM2.5. Eight appropriate PM control strategies are identified for future rule development, which will only require modifying existing EKAPCD Rule 402 and creating new rules for the control of windblown dust. The AEWP would conform to these control strategies with the incorporation of the specified mitigation measures.

The EKAPCD air quality plans recognize growth of the population and economy within the EKAPCD. The AEWP would be anticipated to contribute up to 15 permanent jobs during operation which would not be expected to impact traffic conditions in the AEWP area's traffic analysis zones. The number of local jobs, including existing jobs and jobs contributed by the AEWP and other new projects, are expected to be within the Projections of the Kern COG. Therefore, the AEWP when considered with all projects in the proximity transportation analysis zones, and in the context of the implementation plans to reach and maintain attainment, is considered to be below the level of significance under CEQA.

Construction

Criteria Pollutant Emissions. Construction of the AEWP would result in emissions of the following air pollutants: VOC, NOx, carbon monoxide (CO), PM10, particulate matter under 2.5 microns (PM2.5), and sulfur oxides (SOx).

Emissions from construction would result from fuel combustion and exhaust from construction equipment and vehicle traffic, grading, and use of polluting building materials (e.g., paints and lubricants). Fugitive dust emissions would be generated from earth moving activities such as dozing, grading and material loading/handling, concrete batch plant operation, and vehicle trips on paved/unpaved roads. Land disturbance during construction would also result in generation of fugitive dust due to wind erosion. Emissions are estimated based on the following assumptions:

- Construction will be completed over a nine to twelve month period.
- Construction emissions generated from off-road equipment were estimated using URBEMIS model (ver. 9.2.4).
- 2012 emission factors from the EMFAC 2007 model for Kern County were used for on-road vehicles.
- Fugitive dust emissions from paved road travel, and unpaved road travel were estimated using emission factors from AP-42 (Compilation of Air Pollutant Emission Factors).
- Emissions from diesel engines used to power the concrete batch plant, along with emissions from the other off-road equipment, were calculated using URBEMIS, and the fugitive dust emissions for the concrete batch plant were calculated separately using emission factors from AP-42. The concrete batch plant diesel engine emissions are included with the other off-road equipment, while the fugitive dust

emissions that were calculated separately are presented separately from the other fugitive dust construction emission sources.

- A 40 percent reduction in NOx emissions from off-road diesel-fueled equipment was assumed due to the use of Tier 3 engine compliant equipment.
- A 61 percent reduction in fugitive dust emissions from travel on unpaved roads was assumed based on watering three (3) times per day. Fugitive dust emissions from unpaved road travel were reduced further by an additional 44 percent assuming reduced vehicle speeds at 15 MPH on unpaved roads (total combined efficiency would be 78 percent).

Table 4.2-2 summarizes the worst-case mitigated construction air pollutant emissions and compares the maximum mitigated annual construction emissions with the applicable EKAPCD thresholds of significance and the General Conformity applicability thresholds (40 CFR Part 93.153) as described above. Emissions presented in Table 4.2-2 are based on installation of up to 120 WTGs (360 MW). Since Alterative A would have a maximum of 106 WTGs (318 MW), these emission estimates are conservative for certain specific WTG construction elements. It is concluded that the construction emissions estimate is reasonable for Alternative A when considered with the implementation of Mitigation Measure 4.2-1 (Construction Fugitive Dust Emission Reduction).

Table 4.2-2. Maximum Mitigated Annual Construction Emissions (tons/year)

	VOC	NOx	CO	PM10	PM2.5	SOx
Onsite Equipment	3.84	21.39	16.25	1.61	1.49	0.00
Onsite Vehicles	0.68	2.65	1.83	0.18	0.15	0.00
Onsite Concrete Batch Plant	—	—	—	1.90	0.70	—
Onsite Fugitive Dust (land disturbance)	—	—	—	32.40	3.45	—
Offsite Vehicles	0.35	6.30	2.96	1.40	0.50	0.01
Total	**4.88**	**30.34**	**21.04**	**37.51**	**6.29**	**0.02**
KC/EKAPCD Thresholds	25	25	—	15	15*	27
KC/EKACPD Thresholds Exceeded?	*No*	***Yes***	*No*	***Yes***	*No*	*No*
General Conformity Threshold (Federal)	100	100	n/a	n/a	n/a	n/a
General Conformity Thresholds Exceeded?	*No*	*No*	n/a	n/a	n/a	n/a

Source: Appendix G, including revision of paved road fugitive dust PM10 and PM2.5 emissions based on revised USEPA emission factors.
NOTE: The Unmitigated construction emissions estimate prepared by the AEWP proponent is provided in Appendix G, page 3-7, Table 4.
*Based on use of PM10 threshold for PM2.5.

Section 1.10.2 (Air Quality) of the Kern County General Plan (KCGP) states that projects may use one or more of a variety of options to reduce air quality effects. These provisions include paving of dirt roads within developments or utilizing other strategies that may be recommended by the local Air Pollution Control District. Unpaved roads within the site will predominantly be used for a short duration of time during construction and will not be heavily traveled by the public during operation. Therefore, the use of soil binders consistent with the requirements of the EKAPCD will be utilized on unpaved roads leading to the WTGs for effective fugitive dust emission control. However, as shown in Table 4.2-2, even with this mitigation measure, the PM10 emissions during construction would exceed the Kern County adopted thresholds and EKACPD regional significance threshold of 15 tons/year.

NOx emissions, as an ozone precursor, would have the potential to worsen the air quality in the region where the AEWP is proposed. Implementation of Mitigation Measure 4.2-2 (Construction Equipment Emissions Reduction**)** would reduce NOx emissions by approximately 40 percent during construction. This mitigation measure would ensure that the AEWP's NOx emissions would be reduced to the maximum

extent feasible; however, even with this mitigation measure the NOx emissions during construction would exceed the EKACPD regional significance threshold of 25 tons/year.

A dispersion modeling impact analysis was prepared as part of the *Air Quality and Greenhouse Gas Technical Report for the Alta East Wind Project*, see Appendix G, to determine the worst-case construction emissions impacts using the USEPA-approved AERMOD (version 09292) air dispersion model (CH2MHILL, 2011). The distances between the construction sites and the sensitive receptors are calculated by measuring the distance to the edge of the closest proposed WTG pad, where the closest residential receptor is assumed to be located at least 500 feet from a WTG. The required minimum setback from an on-site residence is equal to one times the machine height, which is limited to 500 feet. The AEWP would be adjusted, if necessary, to ensure that the minimum setback requirements are met before construction plans for the AEWP are finalized.

24-hour PM10 and PM2.5 impacts were summarized as part of the dispersion modeling impact analysis in the AEWP proponent's air quality technical report (see Appendix G). The modeling results, summarized below in Table 4.2-3 and revised to include more reasonable maximum background concentrations, indicate that PM10 emissions would have the potential to contribute to ongoing State 24-hour ambient air quality standard exceedances at the AEWP fence line; and indicate that the PM10 and PM2.5 emissions would not have the potential to cause new exceedances of the federal 24-hour PM10 and PM2.5 standards. Based on the dispersion modeling results, the PM10 ambient concentrations would decrease by approximately half of the maximum modeled concentration within several hundred meters of the AEWP fence line. Therefore, PM10 emissions during construction would result in temporary significant unavoidable impacts on the residents living adjacent to the AEWP boundary when construction activities occur near these residences.

Table 4.2-3. Construction Emissions Air Dispersion Modeling Analysis

Pollutant	Maximum Modeled 24-Hr Impact ($\mu g/m^3$)	Background Concentration* ($\mu g/m^3$)	Maximum Predicted Impact ($\mu g/m^3$)	AAQS ($\mu g/m^3$)
PM10 – State	63	68	131	50
PM10 – Federal	63	67	130	150
PM2.5 – Federal	13.9	12.7	26.6	35

Source: Appendix G, highest modeled impact results for Option A and Option B presented in Table 6.

*The background concentration has been revised to the highest concentration determined at the Mojave monitoring site for the past two years, which is different for State and Federal PM10 (see Table 3.2-3).

The more distant sensitive receptors, such as the schools and health clinics listed in Section 3.2 are located southeast of the AEWP site. However, the prevailing winds in the AEWP area blows from the west through south west, or from the AEWP to the east and northeast which would be north of these receptors. Additionally, these sensitive receptors are located from 3.4 to 4.7 miles from the AEWP site, which would allow the high fence line concentrations determined by the AEWP proponent's modeling analysis to disperse significantly over the distance needed to reach these schools and health clinics. Therefore, while there will be significant and unavoidable impacts to the adjacent residents, the impacts to these more distant sensitive receptors (schools, health care center, etc.) are determined to be less than significant.

While the AEWP proponent did not model NOx emissions, the PM10 modeling results, along with the NO_2 background concentrations can be used to determine that there will be no significant localized NO_2 impacts to sensitive receptors. The NO_2 impacts would be no higher than the PM10 results since the NO_2, as opposed to the PM10 emissions, all come from buoyant engine plumes that will disperse better than fugitive dust. It can be seen that, adding the worst-case PM10 modeling results, as a proxy for NO_2, to the

NO_2 background concentrations presented in Table 3.2-3, the totals impacts would remain well below the CAAQS and NAAQS for NO_2.

The general conformity applicability thresholds for VOC and NOx emissions are applicable to the AEWP's annual emissions, as the AEWP site area is designated as former subpart 1 nonattainment for ozone. Maximum annual construction emissions would not exceed any of these thresholds.

Hazardous Air Pollutant Emissions. Emissions of hazardous air pollutants (aka air toxics) are very limited for this type of project, and from a health risk perspective are primarily concerned with the emissions of diesel particulate matter (DPM). DPM would be emitted from construction equipment and diesel fueled construction vehicles. Mitigation Measure 4.2-2 (Construction Equipment Emissions Reduction**)** would reduce DPM emissions by requiring the use of newer and cleaner off-road and on-road diesel engines. These emissions would also occur over a short duration and would be spread over the large AEWP site area, which would reduce impacts to offsite receptors.

Odors. Construction equipment may create mildly objectionable odors. The specific potential minor odor sources during construction would include off-road equipment and construction vehicle exhausts, and limited asphalt paving.

Operation and Maintenance

Criteria Pollutant Emissions. Operation of the AEWP would result in substantially lower emissions than AEWP construction, since the AEWP would not have any major stationary emission sources. Operation emissions of the AEWP would be limited to maintenance activities and vehicles trips required for operation/maintenance and non-emergency operation of emergency generator engines. Fugitive dust emissions during operation would be generated mostly from employee and maintenance vehicle trips and road grading activities. The following emission calculation assumptions are used in the emissions estimates:

- 200 hours/year of each emergency engine operation for non-emergency use,
- Four (4) maintenance truck trips traveled 20 vehicle miles traveled (VMT)/day on unpaved road for 365 days/year,
- Fifteen (15) employee commuting trips traveled 50 VMT/day on paved road for 365 days/year, and
- One (1) delivery truck trip traveled 150 VMT/day on paved road for 260 days/year.
- Fugitive dust emissions from unpaved road travel were reduced by 61 percent (61%) with watering three (3) times/day.

Table 4.2-4 summarizes the worst-case mitigated operation air pollutant emissions and compares the maximum mitigated annual operation emissions with the applicable EKAPCD thresholds of significance and the General Conformity applicability thresholds (40 CFR Part 93.153) as shown in Table 4.2-1. Emissions presented in Table 4.2-2 are based on installation of up to 120 WTGS (360 MW). Since Alterative A would have a maximum of 106 WTGs (318 MW), these emission estimates are conservative for certain specific WTG operation elements. However, the operation emissions estimate may underestimate emissions from other elements such as access road travel and paved/unpaved road fugitive dust emissions because the emissions estimate is based on a previous project site configuration that had the O&M facility located near the main site access point. However, incorporation of Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) will ensure that the emissions estimate for Alternative A is reasonable, specifically the requirement to pave or stabilize the road to the O&M facility.

Table 4.2-4. Maximum Mitigated Annual Operation Emissions (tons/year)

	VOC	NOx	CO	PM10	PM2.5	SOx
Vehicle Emissions	0.23	1.32	1.01	4.91	0.59	0.00
Equipment Emissions	0.02	0.21	0.09	0.01	0.01	0.00
Emergency Propane Generators	0.72	0.33	0.82	0.02	0.02	0.03
Total	0.97	1.86	1.92	4.94	0.62	0.03
KC/EKAPCD Thresholds	25	25	n/a	15	15*	27
KC/EKAPCD Thresholds Exceeded?	No	No	No	No	No	No
General Conformity Threshold (Federal)	*100*	*100*	*n/a*	*n/a*	*n/a*	*n/a*
General Conformity Thresholds Exceeded?	*No*	*No*	*n/a*	*n/a*	*n/a*	*n/a*

Source: Appendix G, including revision of paved road PM10 and PM2.5 fugitive dust emissions based on revised USEPA emission factors.
*Based on use of PM10 threshold for PM2.5.

As shown in Table 4.2-4, with mitigation, operation emissions for all criteria pollutants would be well below the applicable significance thresholds adopted by Kern County and EKACPD.

The AEWP would also result in an indirect emission reduction associated with the reduction of fossil fuel–fired power plant electricity generation due to the AEWP displacing the need for their operation. However, the exact nature and location of such reductions is not known, and would certainly not occur near the AEWP area.

The general conformity applicability thresholds for VOC and NOx emissions shown in Table 4.2-2 are applicable to the AEWP annual emissions, as the AEWP site area is designated as former subpart 1 nonattainment for ozone. Maximum annual operation emissions would not exceed the applicable NOx and VOC applicability thresholds.

Hazardous Air Pollutant Emissions. DPM is a primary hazardous air pollutant. Sources of DPM emissions during operation include operation/maintenance equipment, such as crane and forklift, and diesel fueled vehicles. DPM emissions during operation would be very limited, considering the frequency of the equipment use, and total vehicle miles traveled; would be spread over a very large area, reducing the long-term offsite receptor impacts; and would also be reduced through compliance with proposed Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction).

Odors. Exhaust from off-road equipment and on-road vehicle use during AEWP operation would not be expected to create objectionable odors.

Decommissioning

Criteria Pollutant Emissions. Decommissioning of the AEWP would require disassembly of wind turbine generators, demolition of on-site building, and removal of perimeter fencing. After removal of equipment and buildings, the site would need to be re-vegetated. Equipment used for decommissioning would generally be similar to that used for construction; however, activity levels would likely be lower as it is easier to demolish than to build. Since decommissioning would be completed using established and on-site roads, the level of fugitive dust emissions would be less than emissions created during construction. In addition, the site is likely to be re-vegetated, which would further reduce fugitive dust emissions. Because decommissioning would occur after serving at least 30 years, it is likely that equipment engine technology would be more advanced and fuel would be cleaner. Also, the schedule for decommissioning could be much less compressed than the construction schedule reducing both short-term and annual emissions potentials. Therefore, criteria pollutant emissions during decommissioning would be significantly less than the emissions estimated for AEWP construction.

Hazardous Air Pollutant Emissions. Similar to criteria pollutant emissions, hazardous air pollutant emissions during decommissioning would be less than that during construction due to advanced equipment engine technology and cleaner fuel. These emissions would also occur over a short duration and would be spread over the large AEWP site area, which would reduce impacts to offsite receptors.

Odors. Exhaust from off-road equipment and on-road vehicles used during decommissioning and construction vehicle trips would not be expected to create objectionable odors.

4.2.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, and Decommissioning) are presented below based on the CEQA Thresholds of Significance and Criteria, as described in Section 4.2.2, above.

Construction

- **AR-1 (Conflict with or obstruct implementation of the applicable air quality plan)**. The KCGP includes policies, goals, and implementation measures applicable to reduce air quality impacts of a project. Considering the type of project, the temporary nature of the AEWP's construction, and the minimal operating emissions of the AEWP, most of these policies and measures are not applicable to the AEWP. Mitigation Measures 4.2-1 (Construction Fugitive Dust Emission Reduction) and 4.2-2 (Construction Equipment Emissions Reduction**)** are in conformance with the applicable EKACPD plans and regulations and KCGP Policies 20 and 21. With implementation of these mitigation measures, impacts are considered less than significant.
- **AR-2 (Violate any air quality standard as adopted in (c) i, (c) ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation**). As shown in Table 4.2-3, construction emissions of VOC, CO, PM2.5 and SOx would be below the applicable Kern County/EKAPCD thresholds of significance. However, emissions of NOx and PM10 during construction would exceed the thresholds even after implementing Mitigation Measures 4.2-1 (Construction Fugitive Dust Emission Reduction) and 4.2-2 (Construction Equipment Emissions Reduction), and these emission levels could cause localized exceedances, or contribute significantly to existing exceedances, of the State or federal air quality standards at the fence line and the adjacent residences as shown in the air dispersion modeling data results presented in Table 4.2-3, but these localized impacts decrease rapidly with distance so they would not be expected to occur beyond the immediately adjacent residences. Therefore, the AEWP would have temporary significant and unavoidable PM10 air quality impacts during construction at the AEWP fence line and at nearby residential receptors.
- **AR-3 (Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard [including releasing emissions that exceed quantitative thresholds for ozone precursors])**. As shown above in Table 4.2-3 the annual construction NOx and PM10 emissions would exceed the EKAPCD thresholds after implementation of feasible Mitigation Measures 4.2-1 and 4.2-2 (Construction Equipment Emissions Reduction**)**. Therefore, the AEWP's construction would create cumulatively considerable emissions and would have temporary significant and unavoidable NOx and PM10 emissions impacts during construction.
- **AR-4 (Expose sensitive receptors to substantial pollutant concentrations)**. The AEWP would comply with the required EKAPCD Rule 402 dust control measures, and the implementation of MM 4.2-1 would reduce fugitive dust emissions and the risk of contracting Valley Fever by construction workers and area residents to less than significant.

  However, the nearest sensitive receptors are scattered single-family residences located on the east side of Wildflower Canyon Road; directly east of the AEWP site boundary. Several additional residences

are located near Rosewood Boulevard, to the south of the AEWP boundary. As shown above in Table 4.2-3, construction emissions of VOC, CO, PM2.5 and SOx would be within the applicable EKAPCD thresholds and would not affect nearby sensitive receptors. However, temporary construction related NOx and PM10 emissions are expected to exceed the applicable significant thresholds after mitigation. Mitigation Measures 4.2-1 (Construction Fugitive Dust Emission Reduction) and 4.2-2 (Construction Equipment Emissions Reduction**)** would minimize NOx and PM10 emissions. However, even with implementation of these mitigation measures, the AEWP would have temporary significant and unavoidable NOx and PM10 emissions impacts during construction.

- **AR-5 (Create objectionable odors affecting a substantial number of people)**. Use of construction equipment and limited asphalt paving may create mild odors. Construction odors would be temporary, are not overly offensive, are types of odors regularly experienced by the public, and so would not negatively affect a substantial number of people. Therefore, the odor impacts from the AEWP construction are less than significant.

Operation and Maintenance

- **AR-1 (Conflict with or obstruct implementation of the applicable air quality plan)**. The AEWP does not include any major stationary emission sources and requires only minimal operation activities. In addition, the AEWP would implement Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) to mitigate NOx and particulate matter emissions during operation. Therefore, the operation of the AEWP would not conflict with or obstruct implementation of the EKAPCD air quality plans. Impacts are considered less than significant with mitigation.
- **AR-2 (Violate any air quality standard as adopted in (c)i, (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation)**. As shown in Table 4.2-5, operation emissions for all criteria pollutants would remain well under the applicable thresholds of significance. Such levels of emissions should not cause localized exceedances, or contribute significantly to existing exceedances, of the State or federal air quality standards. Therefore, the AEWP would have less-than-significant impacts on air quality standard attainment during operation.
- **AR-3 (Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard [including releasing emissions that exceed quantitative thresholds for ozone precursors])**. Operation of the AEWP would result in substantially lower emissions than AEWP construction and would be well below the EKAPCD thresholds of significance (see Table 4.2-5). Therefore, AEWP's operation emissions would not result in cumulatively considerable net increases of nonattainment pollutants and would have less-than-significant impacts to regional air quality.
- **AR-4 (Expose sensitive receptors to substantial pollutant concentrations)**. As shown in Table 4.2-5, the AEWP's operation emissions are minimal after implementation of Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction), so the AEWP would have less-than-significant impacts to area receptors during operation.
- **AR-5 (Create objectionable odors affecting a substantial number of people)**. The use of operation equipment may create mild odors. Operation odors would be minimal due to the low number of sources and lack of any significant odor producing source. Therefore, the odor impacts from the AEWP operation are less than significant.

Decommissioning

- **AR-1 (Conflict with or obstruct implementation of the applicable air quality plan)**. It is assumed that the decommissioning activities will be approved in a manner that would conform to the

requirements of applicable air quality plans, if any exist, at the time of AEWP decommissioning. Therefore, the AEWP would have less-than-significant impacts.

- **AR-2 (Violate any air quality standard as adopted in (c)i, (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation)**. The magnitude of decommissioning emissions are expected to be significantly less than those estimated for AEWP construction since decommissioning would occur after at least 30 years of operation, and it is expected that on-road and off-road equipment engine technology would be far more advanced and cleaner than is currently the case. Additionally, the level of activity needed to decommission the WTGs is less than the level of activity needed to construct the WTGs and can be done at a more leisurely pace than the expedited construction pace forecast for Phase 1 of the AEWP's construction. Although the ambient air quality attainment status for the AEWP area at the time of AEWP decommissioning is unknown, the AEWP decommissioning emissions are not expected to cause or significantly contribute to any air quality violations, and would have less-than-significant impacts on air quality standard attainment.
- **AR-3 (Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard [including releasing emissions that exceed quantitative thresholds for ozone precursors])**. Due to the reduced activity, and expected reduced emission profile of vehicles when decommissioning would occur, is anticipated that decommissioning emissions of the AEWP can be kept below the EKACPD/Kern County CEQA significance thresholds. Therefore, AEWP's decommissioning emissions would not result in cumulatively considerable net increases of nonattainment pollutants and would have less-than-significant impacts to regional air quality.
- **AR-4 (Expose sensitive receptors to substantial pollutant concentrations)**. The AEWP vicinity is generally characterized as sparsely developed and rural therefore it is likely that there would be similar number of residential receptors. Any receptors located near to the AEWP site would have increased air pollutant exposures from AEWP decommissioning; however, as noted above, the level of emissions during decommissioning are expected to be substantially lower than those from AEWP construction, and during decommissioning the AEWP owner would have to comply with EKAPCD rules and regulations and Mitigation Measures 4.2-1 (Construction Fugitive Dust Emission Reduction) and 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) that address fugitive dust control. Therefore, the air quality impacts resulting from AEWP decommissioning to the public, including sensitive receptors, are expected to be less than significant.
- **AR-5 (Create objectionable odors affecting a substantial number of people)**. Use of decommissioning equipment may create mild odors. Odors during decommissioning would be temporary, are not overly offensive, are types of odors regularly experienced by the public, and so would not negatively affect a substantial number of people. Therefore, the odor impacts from the AEWP decommissioning would be less than significant.

4.2.4 Alternative B: Revised Site Layout

Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting access roads. All other features associated with Alternative B would be identical to Alternative A.

4.2.4.1 Direct and Indirect Impacts

Construction

Emissions for Alternative B would be nearly identical to those for Alternative A. Due to a slightly larger area of disturbance; the fugitive dust emissions for Alternative B would be slightly higher than those shown for Alternative A in Table 4.2-3. However, this small increase would not affect the impact findings, which would be the same as those described for Alternative A in Section 4.2.3.1 above.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative B construction would be nearly identical to those of described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative B construction would be nearly identical to those described for Alternative A in Section 4.2.3.1 above.

Operation and Maintenance

Criteria Pollutant Emissions. Since Alternative B would have the same number of WTGs and the same generating capacity, operation activities required under Alternative B would be nearly identical to those required under Alternative A. Therefore, operation emissions under Alternative B would also be nearly identical to the operation emissions estimated for Alternative A, as presented in Table 4.2-5 above.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative B operation would be nearly identical to those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative B operation would be the same as those described for Alternative A in Section 4.2.3.1 above.

Decommissioning

Criteria Pollutant Emissions. Criteria pollutant emissions for Alternative B decommissioning would be nearly identical to those described for Alternative A in Section 4.2.3.1 above.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative B decommissioning would be nearly identical to those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative B decommissioning would be nearly identical to those described for Alternative A in Section 4.2.3.1 above.

4.2.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, and Decommissioning) are presented below based on the CEQA Thresholds of Significance and Criteria as listed in Section 4.2.2, above.

Construction, Operations and Maintenance, Decommissioning

CEQA significance and impact determinations for Alternative B would be identical to that of Alternative A as described in Section 4.2.3.2 above.

4.2.5 Alternative C: Reduced Project North

Alternative C would eliminate the central parcel within the Alternative A boundary, which is located north of SR 58. As a result, Alternative C would eliminate nine turbines and the maximum number of WTGs would be 97 under this alternative.

4.2.5.1 Direct and Indirect Impacts

Construction

Criteria Pollutant Emissions. Total construction criteria pollutant emissions for Alternative C would be less than Alternative A due to the reduced number of wind turbine generators. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 97.

- The emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. This assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.

Table 4.2-5 summarizes the worst-case mitigated construction air pollutant emissions and compares the maximum mitigated annual construction emissions with the applicable EKAPCD thresholds of significance and the General Conformity applicability thresholds (40 CFR Part 93.153) as shown in Table 4.2-1. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.2-5. Maximum Mitigated Annual Construction Emissions (tons/year) – Alternative C

	VOC	NOx	CO	PM10	PM2.5	SOx
Onsite Equipment	3.58	19.93	15.15	1.51	1.38	0.00
Onsite Vehicles	0.64	2.47	1.70	0.17	0.14	0.00
Onsite Concrete Batch Plant	—	—	—	1.78	0.65	—
Onsite Fugitive Dust (land disturbance)	—	—	—	30.20	3.22	—
Offsite Vehicles	0.33	5.87	2.76	1.31	0.47	0.01
Total	**4.55**	**28.28**	**19.61**	**34.96**	**5.86**	**0.01**
KC/EKAPCD Thresholds	25	25	—	15	15*	27
KC/EKACPD Thresholds Exceeded?	*No*	***Yes***	*No*	***Yes***	*No*	*No*
General Conformity Threshold (Federal)	100	100	n/a	n/a	n/a	n/a
General Conformity Thresholds Exceeded?	No	No	n/a	n/a	n/a	n/a

Source: Interpolation of Appendix G Alternative A emissions.
*Based on use of PM10 threshold for PM2.5.

Table 4.2-5 shows that, like Alternative A, the temporary construction emissions of NOx and PM10 are estimated to exceed the EKAPCD significance thresholds. Therefore, this alternative would have the same specified mitigation measures and the same impact findings as Alternative A.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions under Alternative C construction would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative C construction would be similar to those described for Alternative A in Section 4.2.3.1 above.

Operation and Maintenance

Criteria Pollutant Emissions. Due to the reduced number of WTGs, operation of Alternative C would result in slightly lower annual air pollutant emissions compared to Alternative A. It is likely that Alternative C would require the same level of maintenance for most of operation/maintenance elements, but it would require slightly less operating hours of equipment used for wind turbine generator and access road maintenance. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 97.
- The vehicle and off-road equipment emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. The assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.
- The emergency generator emissions do not change from those estimated for Alternative A.

Table 4.2-6 summarizes the worst-case annual mitigated operation air pollutant emissions in comparison to the applicable EKACPD thresholds of significance and General Conformity applicability thresholds. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.2-6. Maximum Mitigated Annual Operation Emissions (tons/year) – Alternative C

	VOC	NOx	CO	PM10	PM2.5	SOx
Vehicle Emissions	0.21	1.23	0.94	4.58	0.55	0.00
Equipment Emissions	0.02	0.20	0.09	0.01	0.01	0.00
Emergency Propane Generators	0.72	0.33	0.82	0.02	0.02	0.03
Total	0.95	1.76	1.85	4.60	0.58	0.03
KC/EKAPCD Thresholds	25	25	—	15	15*	27
KC/EKACPD Thresholds Exceeded?	*No*	*No*	*No*	*No*	*No*	*No*
General Conformity Threshold (Federal)	*100*	*100*	*n/a*	*n/a*	*n/a*	*n/a*
General Conformity Thresholds Exceeded?	*No*	*No*	*n/a*	*n/a*	*n/a*	*n/a*

Source: Interpolation of Appendix G Alternative A emissions.
*Based on use of PM10 threshold for PM2.5.

Table 4.2-6 shows that, like Alternative A, all air pollutant emissions are estimated to be below the EKAPCD significance thresholds. Therefore, this alternative would have the same impact findings as Alternative A.

The indirect emission reductions would be less than that under Alternative A, since the capacity and associated generation of Alternative C would be less than the Alternative A.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative C operation would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative C operation would be similar to those described for Alternative A in Section 4.2.3.1 above.

Decommissioning

Criteria Pollutant Emissions. Criteria pollutant emissions for Alternative C decommissioning would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative C decommissioning would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative C decommissioning would be similar to those described for Alternative A in Section 4.2.3.1 above.

4.2.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, and Decommissioning) are presented below based on the CEQA Thresholds of Significance and Criteria as listed in Section 4.2.2, above.

Construction, Operations and Maintenance, Decommissioning

CEQA significance and impact determinations for Alternative C would be identical to that of Alternative A as described in Section 4.2.3.2 above.

4.2.6 Alternative D: Reduced Project Southwest

Alternative D would eliminate the southwestern most parcel within the Alternative A boundary. As a result, Alternative D would eliminate 19 turbines and the maximum number of WTGs would be 87 under this alternative.

4.2.6.1 Direct and Indirect Impacts

Construction

Criteria Pollutant Emissions. Total construction criteria pollutant emissions for Alternative D would be less than Alternative A due to the reduced number of wind turbine generators. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 87.
- The emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. This assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.

Tables 4.2-7 summarizes the worst-case mitigated construction air pollutant emissions and compares the maximum mitigated annual construction emissions with the applicable EKAPCD thresholds of significance and the General Conformity applicability thresholds (40 CFR Part 93.153) as shown in Table 4.2-1. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.2-7. Maximum Mitigated Annual Construction Emissions (tons/year) – Alternative D

	VOC	NOx	CO	PM10	PM2.5	SOx
Onsite Equipment	3.29	18.32	13.92	1.38	1.27	0.00
Onsite Vehicles	0.58	2.27	1.56	0.16	0.13	0.00
Onsite Concrete Batch Plant	—	—	—	1.63	0.60	—
Onsite Fugitive Dust (land disturbance)	—	—	—	27.76	2.96	—
Offsite Vehicles	0.30	5.39	2.54	1.20	0.43	0.01
Total	**4.18**	**25.99**	**18.03**	**32.13**	**5.39**	**0.01**
KC/EKAPCD Thresholds	25	25	—	15	15*	27
KC/EKACPD Thresholds Exceeded?	*No*	***Yes***	*No*	***Yes***	*No*	*No*
General Conformity Threshold (Federal)	100	100	n/a	n/a	n/a	n/a
General Conformity Thresholds Exceeded?	No	No	n/a	n/a	n/a	n/a

Source: Interpolation of Appendix G Alternative A emissions. * Based on use of PM10 threshold for PM2.5.

Table 4.2-7 shows that, like Alternative A, the temporary construction emissions of NOx and PM10 are estimated to exceed the KC/EKAPCD significance thresholds. Therefore, this alternative would have the same specified mitigation measures and the same impact findings as Alternative A.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions under Alternative D construction would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative D construction would be similar to those described for Alternative A in Section 4.2.3.1 above.

Operation and Maintenance

Criteria Pollutant Emissions. Due to the reduced number of WTGs, operation of Alternative D would result in slightly lower annual air pollutant emissions compared to Alternative A. It is likely that Alternative D would require the same level of maintenance for most of operation/maintenance elements, but it would require slightly less operating hours of equipment used for wind turbine generator and access road maintenance. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 87.
- The vehicle and off-road equipment emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. The assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.
- The emergency generator emissions do not change from those estimated for Alternative A.

Table 4.2-8 summarizes the worst-case annual mitigated operation air pollutant emissions in comparison to the applicable EKACPD thresholds of significance and General Conformity applicability thresholds. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.2-8. Maximum Mitigated Annual Operation Emissions (tons/year) – Alternative D

	VOC	NOx	CO	PM10	PM2.5	SOx
Vehicle Emissions	0.19	1.13	0.87	4.21	0.51	0.00
Equipment Emissions	0.02	0.18	0.08	0.01	0.01	0.00
Emergency Propane Generators	0.72	0.33	0.82	0.02	0.02	0.03
Total	0.93	1.64	1.77	4.23	0.53	0.03
KC/EKAPCD Thresholds	25	25	—	15	15*	27
KC/EKAPCD Thresholds Exceeded?	No	No	No	No	No	No
General Conformity Threshold (Federal)	*100*	*100*	*n/a*	*n/a*	*n/a*	*n/a*
General Conformity Thresholds Exceeded?	*No*	*No*	*n/a*	*n/a*	*n/a*	*n/a*

Source: Interpolation of Appendix G Alternative A emissions.
*Based on use of PM10 threshold for PM2.5.

Table 4.2-8 shows that, like Alternative A, all air pollutant emissions are estimated to be below the EKAPCD significance thresholds. Therefore, this alternative would have the same impact findings as Alternative A.

The indirect emission reductions would be less than that under Alternative A, since the capacity and associated generation of Alternative D would be less than the Alternative A.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative D operation would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative D operation would be similar to those described for Alternative A in Section 4.2.3.1 above.

Decommissioning

Criteria Pollutant Emissions. Criteria pollutant emissions for Alternative D decommissioning would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Hazardous Air Pollutant Emissions. Hazardous air pollutant emissions for Alternative D decommissioning would be slightly less than those described for Alternative A in Section 4.2.3.1 above.

Odors. Odor impacts for Alternative D decommissioning would be similar to those described for Alternative A in Section 4.2.3.1 above.

4.2.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, and Decommissioning) are presented below based on the CEQA Thresholds of Significance and Criteria as listed in Section 4.2.2, above.

Construction, Operations and Maintenance, Decommissioning

CEQA significance and impact determinations for Alternative D would be identical to that of Alternative A as described in Section 4.2.3.2 above.

4.2.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action /No Project)

4.2.7.1 Direct and Indirect Impacts

Under this alternative, the AEWP would not be approved and BLM would not amend the CDCA Plan. As a result, no wind energy projects would be constructed on the AEWP site and BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan. The results of the No Action Alternative would be the following:

- The impacts of the AEWP would not occur. However, the land on which the AEWP is proposed would become available to other uses that are consistent with BLM's land use plan, including another renewable energy project.
- The benefits of the AEWP in reducing fossil fuel use and air pollutant emissions from fossil fuel–fired generation would not occur. Both State and Federal law support the increased use of renewable power generation.

If the AEWP is not approved, renewable projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/Federal mandates. Several dozen wind and solar development applications for use of BLM land have been submitted for approximately one million acres of the CDCA. Additional BLM land in Nevada and Arizona also has applications for wind and solar projects.

4.2.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action / No Project)

Under this Alternative the air quality of the site is not expected to change noticeably from existing conditions and, as such, this No Action Alternative would not result in the air quality impacts or benefits described for Alternative A. However, in the absence of this project, other renewable energy projects may be constructed to meet State mandates at other locations, and those projects would have similar impacts as the AEWP in those locations.

4.2.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.2.8.1 Direct and Indirect Impacts

Under this alternative, the AEWP would not be approved and the BLM would amend the CDCA Plan to make the proposed site unavailable for future wind energy development. As a result, no wind energy project would be constructed on the AEWP site and BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan.

Because the CDCA Plan would be amended to make the area unavailable for future wind energy development, it is expected that the site would continue to remain in its existing condition, with no new structures or facilities constructed or operated on the site. The benefits of the AEWP in displacing fossil fuel–fired generation and reducing associated pollutant emissions would not occur with this alternative.

4.2.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Under this Alternative the air quality of the site is not expected to change noticeably from existing conditions and, as such, this No Project Alternative would not result in the air quality impacts or benefits described for Alternative A. However, in the absence of this project, other renewable energy projects may be constructed to meet State mandates at other locations, and those projects would have similar impacts as the AEWP at those locations.

4.2.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.2.9.1 Direct and Indirect Impacts

Under this Alternative, the AEWP would not be approved and BLM would amend the CDCA Plan to allow for other wind energy projects on the site. As a result, it is possible that another wind energy project could be constructed on the AEWP site.

Because the CDCA Plan would be amended, it is possible that the site would be developed with the same or a different wind energy technology. As a result, air pollutant emissions and impacts would result from the construction and operation of the wind energy technology and would likely be similar to the air quality impacts from the AEWP. Different wind technologies require different amounts of construction and operations maintenance; however, the benefits of the AEWP in displacing fossil fuel–fired generation and reducing associated pollutant emissions could occur with a different wind energy technology at this site and therefore with this alternative.

4.2.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

This Alternative could result in future air quality impacts and benefits similar to Alternative A as described above.

4.2.10 Cumulative Impacts

4.2.10.1 Geographic Extent/Context

Cumulative impacts are impacts that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts from the AEWP. Utilization of Kern Council of Governments (COG) data provides a framework for assistance in determining the cumulative significance of a project with respect to air quality emissions. Where a project's emissions are found to be consistent with local and regional growth projections, that project is considered to be in conformance with air basin projections, and regional, state and federal emission budgets and air quality improvement goals.

The geographic scope for the cumulative analysis consists of all identified wind projects in the Mojave Desert Air Basin (MDAB), along with a one-mile and six-mile radius project analysis which quantifies project operation impacts. The regional analysis confirms whether the AEWP, when added to existing and proposed development and compared with local and regional growth forecasts, are in line with those forecasts, and therefore, in conformance with California State Implementation Plan (SIP) emission budgets or baseline emissions for NOx, VOC, CO and PM10.

The cumulative analysis is based, in part, on a quantitative analysis of projects in the vicinity of the AEWP and is supplemented with the State of California Department of Finance population projections, and an analysis of data utilized by the Kern Council of Governments' (COG) adopted regional growth forecast used for the regional air quality conformity analysis required by the 1990 Federal Clean Air Act Amendments (CAAA).

4.2.10.2 Existing Cumulative Conditions

Current area designations for criteria air pollutants represent the existing cumulative conditions for the AEWP site area. The AEWP site area within the Mojave Desert Air Basin (MDAB) is designated as moderate nonattainment status for the State 1-hour ozone standard and nonattainment status for federal 8-hour ozone and State PM10 standards. The AEWP area is designated as attainment or unclassified for the federal PM10 standard, and the state and federal CO, NOx, SOx and PM2.5 standards.

4.2.10.3 Reasonably Foreseeable Projects

A list of all known cumulative projects was mapped on Figure 4.1-1 in Section 4.1 and those projects are listed in Table 4.1.1 located in section 4.1 of this document. The wind projects considered in the quantitative cumulative air quality analysis are listed in Tables 4.2.9 and 4.2.10 below.

While all known large commercial wind energy projects within the MDAB were included in the cumulative analysis, one known small project, the Coram Brodie Wind Project (3 MW), would have emissions that are minor compared to those of the listed major cumulative projects.

4.2.10.4 Construction

The mitigated construction emissions estimated for wind projects located within the MDAB are provided in Table 4.2-9. Although it is difficult to determine when construction of each of these cumulative projects would occur, construction of many of these projects is likely to occur concurrently with construction of the AEWP. The maximum cumulative construction emissions of these projects exceed the EKAPCD regional significance thresholds for VOC, NOX, PM10, and PM2.5 during the assumed maximum construction year. This impact is temporary and is based on the conservative assumption that construction activities for multiple projects would take place concurrently, and therefore would not have a cumulative adverse effect on the resource.

Toxic Air Contaminants. Emissions of toxic air contaminants are very limited for the types of cumulative projects evaluated, and from a health risk perspective are primarily concerned with the emissions of DPM. Due to the short-time frame of construction emissions, the implementation of Mitigation Measure 4.2-2 (Construction Equipment Emissions Reduction**)** that would reduce DPM emissions (and similar mitigation measures that are, or will be, implemented for the other cumulative projects), and the fact that the DPM emissions would be spread over a very large area reducing the receptor impacts, the AEWP's construction combined with present and reasonably foreseeable construction projects are not expected to result in cumulative adverse effects to the local sensitive receptors or regionally within the air basin.

Table 4.2-9. Cumulative Annual Construction Emissions

	Construction Emissions (Tons/year)					
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**	**SOx**
AEWP [1]	4.88	30.34	21.04	37.51	6.29	0.02
Alta-Oak Creek Mojave Project (Alta Infill II)[2]	13.84	82.34	61.02	58.2	11.86	0.05
SCE TRTP Project[3]	5.26	33.15	25.93	35.72	9.49	0.05
Rising Tree Wind Farm Project[4]	2.36	22.76	10.72	88.8	11.65	0.03
Pacific Wind Energy Project[5]	4.89	17.44	24.82	96.21**	13.37**	0.03
Avalon Wind Energy Project[6]	4.19	30.23	25.32	53.54**	7.15**	0.05
Catalina Renewable Energy Project[7]	10.28	64.51	54.82	137.65	22.48**	0.07
Lower West Wind Energy Project[8]	0.25	2.38	0.88	3.61	0.56	0.00
Morgan Hills Wind Energy Project[9]	9.6	86.48	46.55	66.58	12.46	0.13
Clearvista Wind Project[10]	2.14	1.32	1.28	0.63	-	0.00
Tylerhorse Wind Energy Project[11]	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Annual Total	**57.69**	**370.95**	272.38	**578.45**	**95.31**	0.43
Annual Significance Thresholds (Tons/Year)*	25	25	N/A	15	15	27
Significant?	**Yes**	**Yes**	N/A	**Yes**	**Yes**	No

Sources:

1. Appendix G of this document.
2. Kern County Planning Department 2011b. *Draft Environmental Impact Report for the Alta Infill II Wind Energy Project.* August 2011
3. Southern California Edison 2009. *Final Environmental Impact Report for the Tehachapi Renewable Transmission Project*. Prepared by: Aspen Environmental Group. October 2009.
4. ESA 2011. Air Quality and Greenhouse Gas Emissions Technical Report for the Rising Tree Wind Farm Project. March 2011.
5. Kern County Planning Department. June 2010. *Draft Environmental Impact Report for the Pacific Wind Energy Project*. Bakersfield, CA.
6. enXco Development Corporation. April 2011. *Avalon Wind Energy Project Air Quality Impact Technical Report*. Prepared by Sapphos Environmental, Inc. Pasadena, CA.
7. Kern County Planning Department. August 2011. *Draft Environmental Impact Report for the Catalina Renewable Energy Project*. Kern County, CA.
8. Kern County Planning Department. April 2011. *Draft Environmental Impact Report for the Lower West Wind Energy Project.* Kern County, CA.
9. Kern County Planning Department. July 2011. *Draft Environmental Impact Report for the Morgan Hills Wind Energy Project*. Kern County, CA.
10. Kern County Planning Department. November 2010. *Draft Environmental Impact Report for the Clearvista Wind Project,* Kern County, CA.
11. Tylerhorse has not completed a draft EIS with BLM. http://www.blm.gov/ca/st/en/fo/ridgecrest/tylerhorse_wind_project.html

Notes:

*EKAPCD does not provide annual emission thresholds for CO or PM2.5, but for PM2.5 the PM10 threshold is used.

** PM emissions assume compliance with EKAPCD Rule 402 through watering exposed surfaces three times daily and limiting vehicle speeds on unpaved roads to 15 MPH.

4.2.10.5 Operation and Maintenance

The mitigated operation emissions anticipated to result from the cumulative projects are provided in Table 4.2-10. Cumulative impacts to all criteria pollutants, except PM10, resulting from implementation of the AEWP and the other cumulative projects would be below the EKAPCD thresholds, even without consid-

ering the fossil fuel–related emissions displaced by the AEWP. Cumulative PM10 emissions would exceed the EKAPCD regional significance thresholds and so would be potentially significant. Therefore, cumulative impacts due to operation of the AEWP, in conjunction with the related past, present or reasonably foreseeable probable future projects, would continue to impact the quality of the resource therefore resulting in a cumulative adverse effect to air quality.

Table 4.2-10. Cumulative Annual Operation Emissions

	Air Pollutant Emissions (tons/year)					
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**	**SOx**
AEWP [1]	0.97	1.86	1.92	4.94	0.62	0.03
Alta-Oak Creek Mojave Project (Alta Infill II)[2]	4.63	3.93	9.65	<15	6.07	0.09
SCE TRTP Project[3]	0.06	0.42	0.25	0.67	0.23	0.00
Rising Tree Wind Farm Project[4]	0.08	0.64	0.98	9.6	1.76	0.00
Pacific Wind Energy Project[5]	0.89	4.49	4.35	5.76**	0.87**	0.00
Avalon Wind Energy Project[6]	0.19	0.73	1.60	3.02**	0.34**	0.00
Rosamond Solar Project[7]	1.17	0.03	0.17	0.01	<0.01	0.00
Catalina Renewable Energy Project[8]	0.21	1.08	1.76	4.73	0.52	0.00
Lower West Wind Energy Project[9]	0.00	0.02	0.11	2.39	0.43	0.00
Morgan Hills Wind Energy Project[10]	0.97	1.52	1.92	7.97	1.02	0.03
Clearvista Wind Project[11]	0.89	1.03	8.61	1.38	n/a	0.01
Tylerhorse Wind Energy Project[12]	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Annual Total	10.06	15.75	31.32	**<55.47**	11.87	0.16
Annual Significance Thresholds (Tons/Year)*	25	25	N/A	15	15	27
Significant?	No	No	N/A	**Yes**	No	No

Sources:

1. Appendix G of this document.
2. Kern County Planning Department 2011b. *Draft Environmental Impact Report for the Alta Infill II Wind Energy Project.* August 2011
3. Southern California Edison 2009. *Final Environmental Impact Report for the Tehachapi Renewable Transmission Project*. Prepared by:. Aspen Environmental Group. October 2009.
4. ESA 2011. Air Quality and Greenhouse Gas Emissions Technical Report for the Rising Tree Wind Farm Project. March 2011.
5. Kern County Planning Department. June 2010. *Draft Environmental Impact Report for the Pacific Wind Energy Project*. Bakersfield, CA.
6. enXco Development Corporation. April 2011. *Avalon Wind Energy Project Air Quality Impact Technical Report*. Prepared by Sapphos Environmental, Inc. Pasadena, CA.
7. SGS Antelope Valley Development, LLC. 30 June 2010. *Air Quality Analysis for Rosamond Solar Project, Kern County, California.* Prepared by: ICF International.
8. Kern County Planning Department. July 2011. *Draft Environmental Impact Report for the Catalina Renewable Energy Project*. Kern County, CA.
9. Kern County Planning Department. July 2011. *Draft Environmental Impact Report for the Lower West Wind Energy Project*. Kern County, CA.
10. Kern County Planning Department. July 2011. *Draft Environmental Impact Report for the Morgan Hills Wind Energy Project*. Kern County, CA.
11. Kern County Planning Department. November 2010. *Draft Environmental Impact Report for the Clearvista Wind Project,* Kern County, CA.
12. Tylerhorse has not completed a draft EIS with BLM. http://www.blm.gov/ca/st/en/fo/ridgecrest/tylerhorse_wind_project.html

Notes:

*EKAPCD does not provide annual emission thresholds for CO or PM2.5, but for PM2.5 the PM10 threshold is used.

** PM emissions assume limiting vehicle speeds on unpaved roads to 15 MPH.

With regard to a cumulative increase in air pollutants that could impact sensitive receptors located near the AEWP site only, the construction and operation emissions for the cumulative projects located within a one-mile radius of the AEWP site were evaluated; including the Alta-Oak Creek Mojave Project (Alta Infill II) and Rising Tree Wind Farm Project (emissions data for the California High-Speed Train Project was not available). The combined construction emissions for the two cumulative wind projects (the rail project is not assumed to construct during the same period), exceed the EKAPCD regional significance

thresholds for VOC, NOx, PM10 and PM2.5. The combined operation emissions for these three wind projects (emissions for the rail project are not available) exceed the EKAPCD regional significance threshold PM10. Therefore, the cumulative impacts to sensitive receptors located near to the AEWP during operation would result in a cumulative adverse effect to air quality.be considered to be significant and unavoidable.

Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) is included to reduce particulate emissions to the extent feasible in accordance with EKAPCD rules and regulations, and to reduce the AEWP's DPM and NOx emissions to the extent feasible to ensure that the NOx emissions and DPM emission would not result in a cumulative adverse effect to air quality.

Toxic Air Contaminants. Emissions of toxic air contaminants are very limited for the types of cumulative projects evaluated, and from a health risk perspective are primarily concerned with the emissions of DPM. Due to the low quantity of operation emissions, the implementation of Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) that would reduce DPM emissions (and similar mitigation measures that are, or will be, implemented for the other cumulative projects), and the fact that the DPM emissions would be spread over a very large area reducing the receptor impacts, the AEWP's operation combined with past, present, and reasonably foreseeable projects are not expected to result in a cumulative adverse health effect to the local sensitive receptors or regionally within the air basin.

4.2.10.6 Decommissioning

The magnitude of decommissioning emissions are expected to be significantly less than those estimated for AEWP construction since decommissioning would occur after at least 30 years of operation, and it is expected that on-road and off-road equipment engine technology would be far more advanced and cleaner than is currently the case. Additionally, the level of activity needed to decommission the WTGs is less than the level of activity needed to construct the WTGs and can be done at a more leisurely pace than the expedited construction pace forecast for Phase 1 of the AEWP's construction. Additionally, it cannot be foreseen if decommissioning of multiple projects would occur concurrently. Therefore, the AEWP decommissioning emissions, along with the other cumulative project's operation or decommissioning emissions would not adversely affect regional or local air quality.

4.2.10.7 CEQA Significance and Impact Determinations, Cumulative

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, and Decommissioning) are presented below based on the CEQA Thresholds of Significance and Criteria as listed in Section 4.2.2, above.

Construction

- **AR-1 (Conflict with or obstruct implementation of the applicable air quality plan)**. As concluded above, the AEWP would not conflict with or obstruct implementation of the applicable air quality plan. This impact is project specific; therefore, there are no cumulative impacts.
- **AR-2 (Violate any air quality standard as adopted in (c)i, (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation)**. The AEWP would have temporary significant and avoidable impacts related to air quality standards during construction, and the addition of emissions from the cumulative projects would only worsen those air quality impacts. Therefore, the cumulative impacts would be significant and unavoidable.
- **AR-3 (Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard [including releasing emissions that exceed quantitative thresholds for ozone precursors])**. The AEWP exceeds the EKAPCD CEQA significance thresholds for construction emissions of NOx and

PM10, and the addition of emissions from the nearby cumulative projects would only increase those exceedances. Therefore, the temporary cumulative NOx and PM10 impacts would be significant and unavoidable, and the contribution of the AEWP would also be significant and unavoidable.

- **AR-4 (Expose sensitive receptors to substantial pollutant concentrations)**. It is anticipated that the AEWP would periodically generate a high level of localized NOx and PM10 emissions and the overlapping construction activities of the identified cumulative projects would only increase the potential for localized air quality impacts. Therefore, there would be temporary cumulative construction impacts to the local residents and other local public receptors that would be significant and unavoidable.
- **AR-5 (Create objectionable odors affecting a substantial number of people)**. The AEWP, as well as, the other foreseeable cumulative projects would have less than significant odor impacts. Therefore, the cumulative odor impacts during AEWP construction would be less than significant.

Operation and Maintenance

- **AR-1 (Conflict with or obstruct implementation of the applicable air quality plan)**. As concluded above, the AEWP would not conflict with or obstruct implementation of the applicable air quality plan. This impact is project specific so there are no cumulative impacts.
- **AR-2 (Violate any air quality standard as adopted in (c)i, (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation)**. As shown in Table 4.2-4, operation emissions for all criteria pollutants would remain well under the applicable thresholds of significance. While the cumulative project mitigated emissions (see Table 4.2-10) exceed the EKAPCD threshold of significance for PM10, the distance between the cumulative projects and the large area of the emissions generation are such that their potential for causing localized concentrations above the ambient air quality standards is considered negligible. Therefore, it is anticipated that cumulative operating emissions of the AEWP, along with the other cumulative projects' emissions, would not violate air quality standards or substantially contribute to existing violations, and so would have less-than-significant impacts.
- **AR-3 (Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard [including releasing emissions that exceed quantitative thresholds for ozone precursors])**. Operation of the AEWP would result in substantially lower emissions than AEWP construction and would be well below the EKAPCD thresholds of significance (see Table 4.2-4). However, the cumulative project mitigated operation emissions (see Table 4.2-10) exceed the EKAPCD threshold of significance for PM10. Therefore, the cumulative projects emissions are cumulatively considerable and would have significant and unavoidable impacts to regional air quality.
- **AR-4 (Expose sensitive receptors to substantial pollutant concentrations)**. As shown in Table 4.2-4, the AEWP's operation emissions are minimal after implementation of Mitigation Measure 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) . While there will be some overlap in the localized receptor impacts due to the cumulative projects, their overall criteria pollutant and hazardous air pollutant (DPM) emissions are low enough and their separation is great enough that it is determined that the cumulatively these projects would have less-than-significant impacts to area receptors during operation.
- **AR-5 (Create objectionable odors affecting a substantial number of people)**. The AEWP, as well as, the other foreseeable cumulative projects would have less than significant odor impacts. Therefore, the cumulative odor impacts during AEWP construction would be less than significant.

Decommissioning

- **AR-1 (Conflict with or obstruct implementation of the applicable air quality plan)**. As concluded above, the AEWP would not conflict with or obstruct implementation of the applicable air quality plan. This impact is project specific so there are no cumulative impacts.
- **AR-2 (Violate any air quality standard as adopted in (c)i, (c)ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation)**. As described above in Section 4.2.3.2., decommissioning of the AEWP would have much lower emission than that of the AEWP construction. Although the local attainment status for the air quality standards at the time of AEWP decommissioning is unknown, it is anticipated that cumulative decommissioning emissions of the AEWP, along with the other cumulative projects' emissions, would not violate air quality standards or substantially contribute to existing violations, and so would have less-than-significant impacts.
- **AR-3 (Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard [including releasing emissions that exceed quantitative thresholds for ozone precursors])**. The AEWP's decommissioning emissions and the other cumulative projects' operating emissions were determined to have significant air quality impacts related to the EKAPCD CEQA thresholds (PM10). The actual emissions from these cumulative projects decades in the future when the AEWP would undergo decommissioning are unknown. Also, it is assumed that mitigation measures similar to 4.2-1 (Construction Fugitive Dust Emission Reduction) and 4.2-2 (Construction Equipment Emissions Reduction**)** will be required for AEWP decommissioning to reduce these cumulative impacts to the extent feasible. However, to be conservative it is determined that the cumulative projects' emissions during the AEWP decommissioning would result in cumulatively considerable net increases of nonattainment pollutants (PM10 emissions only) and would have temporary significant and unavoidable impacts to regional air quality.
- **AR-4 (Expose sensitive receptors to substantial pollutant concentrations)**. The AEWP vicinity is generally characterized as sparsely developed and rural therefore it is likely that there would be similar number of residential receptors. Any receptors located near to the proposed AEWP site would have increased air pollutant exposures from AEWP decommissioning and the emissions from the other cumulative projects; however, as noted above the level of emissions during decommissioning are expected to be substantially lower than those from AEWP construction. Therefore, the cumulative local air quality impacts to the public, including sensitive receptors, are expected to be less-than-significant.
- **AR-5 (Create objectionable odors affecting a substantial number of people)**. The AEWP, as well as, the other foreseeable cumulative projects would have less than significant odor impacts. Therefore, the cumulative odor impacts during the AEWP decommissioning would be less than significant.

4.2.11 Mitigation Measures

MM 4.2-1 **Construction Fugitive Dust Emissions Reduction.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall develop a Fugitive Dust Control Plan that will be implemented during project construction. The Plan shall be prepared in compliance with Eastern Kern Air Pollution Control District (EKAPCD) Rule 402 to reduce PM10 and PM2.5 emissions during construction. At minimum, the Fugitive Dust Control Plan shall include the following:

1. Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan;
2. Description and location of the construction operation(s);

3. Listing of all fugitive dust emissions sources included in the construction operations;
4. In addition to compliance with all applicable EKAPCD and California Air Resources Board (CARB) requirements, the following dust control measures shall be implemented:
    a. All onsite unpaved roads shall be effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board registered soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.
    b. All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. During the duration of construction, all excavated soil piles shall be watered periodically or covered with temporary coverings.
    c. Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when activities cause visible dust plumes. Construction activities may continue if dust suppression measures are used that follow the Eastern Kern Air Pollution Control District's *Reasonably Available Control Measures* (Rule 402, Table I); or more stringent measures. At minimum, the measures shall ensure that: (1) the visible dust plumes are not transported off the Project site or within 400-feet of any regularly occupied structure not owned by the Project Proponent; and, (2) that the visible dust plumes generated from linear construction are not transported more than 200-feet beyond the centerline of the linear facilities and do not cause a traffic obscuration hazard on public roads.
    d. Track-out shall not extend 25 feet or more from an active operation and track-out shall be removed at the conclusion of each workday.
    e. Rattle traps or a wheel-washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project property.
    f. All hauling materials should be moist while being loaded into dump trucks. All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).
    g. Drop heights should be minimized when loaders dump soil into trucks.
    i. Traffic speeds on unpaved roads shall be limited to 15 miles per hour.
    j. Disturbed areas should be re-vegetated as soon as possible after disturbance or during the appropriate growing season.

MM 4.2-2 **Construction Equipment Emissions Reduction.** The project proponent shall continuously comply with the following during construction:

1. To control emissions from all off-road construction equipment:
    a. All off-road construction-related portable diesel engines that are not registered under the California Air Resources Board's *Statewide Portable Equipment Registration Program (PERP)* and which have a rating of 50 horsepower or more, shall meet the Tier 3 California Emission Standards for Off-road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1); unless such engine is not available for a particular item of equipment. In the event a Tier 3 engine is not available for any off-road engine, that engine shall be equipped with retrofit controls that would provide

nitrogen oxides and particulate matter emissions that are equivalent to a Tier 3 engine.

b. All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.

c. All equipment engines shall be maintained in good operating condition and in proposed tune per manufacturers' specification.

2. To control Nitrogen Oxides (NOx) emissions from on-road heavy-duty diesel haul vehicles that are contracted for use to haul equipment and materials for the project:

a. 2007 engines or pre-2007 engines with California Air Resources Board certified Level 3 diesel emission controls will be used to the extent possible.

b. All on-road construction vehicles, except those vehicles with California Air Resources Board certified Level 3 diesel emissions controls, shall meet all applicable California on-road emission standards and shall be licensed in the State of California. This does not apply to worker personal vehicles.

c. All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.

d. The construction contractor shall ensure that all on-road construction vehicles are properly tuned and maintained in accordance with the manufacturers' specifications.

MM 4.2-3 **Operation Fugitive Dust and Equipment Emissions Reduction.** The project proponent shall continuously comply with the following during project operation:

1. To control fugitive dust emissions from the use of unpaved roads on the site:

a. The main access road for employees and deliveries to the O&M complex and to the onsite substation shall be paved or effectively stabilized using soil stabilizers that can be determined to be as efficient as or more efficient for fugitive dust control than California Air Resources Board registered soil stabilizers, and that shall not increase any other environmental impacts including loss of vegetation.

b. The other unpaved roads at the site shall be stabilized using soil stabilizers so that vehicle travel on these roads does not cause visible dust plumes.

c. Traffic speeds on unpaved roads shall be limited to no more than 15 miles per hour. Traffic speed signs shall be displayed prominently at all site entrances and at egress point(s) from the O&M facility and onsite substation.

2. To control particulate emissions from onsite dedicated equipment exhaust:

a. All on-site off-road equipment and on-road vehicles for operation/maintenance shall be new equipment that meets the recent California Air Resources Board engine emission standards or alternatively fueled construction equipment, such as compressed natural gas, liquefied natural gas, or electric, as appropriate.

b. All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.

c. All equipment engines shall be maintained in good operating condition and in proposed tune per manufacturers' specification.

4.2.12 Residual Impacts After Mitigation

Construction of the AEWP or variations thereof (Alternatives A, B, C, or D) would have temporary and unavoidable adverse NOx and PM10 impacts during construction. AEWP operation would not have any adverse impacts since the operation/maintenance activities required for the AEWP are minimal and would not generate emissions which exceed the established thresholds as listed in Section 4.2.2. For all other criteria pollutants, the impacts would not be substantial during either construction or operation. Mitigation Measures 4.2-1 (Construction Fugitive Dust Emission Reduction) and 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) would mitigate fugitive particulate matter emissions during construction and operation to the maximum extent feasible. Mitigation Measures 4.2-2 (Construction Equipment Emissions Reduction**)** and 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) would mitigate engine exhaust particulate (including DPM) and NOx emissions to the extent feasible.

The AEWP would not cause emission rates that could exceed the appropriate General Conformity applicability thresholds (40 CFR 93.153) for Eastern Kern County during construction or operation, so a formal conformity analysis and determination are not required for this project.

4.3 Climate Change and Greenhouse Gases

This section evaluates the greenhouse gas (GHG) emissions impacts of the Alta East Wind Project (AEWP) and the consistency of the AEWP with relevant plans and programs that have jurisdiction within the AEWP site area. The GHG emissions information in this section is based primarily on the Air Quality and Greenhouse Gas Technical Report for the Alta East Wind Project prepared by CH2MHILL in April 2011 (Appendix G). The impact assessment reviewed relevant literature and technical reports that include information and guidelines by the California Air Resources Board (CARB), the United States Environmental Protection Agency (USEPA), the applicable provisions of the California Environmental Quality Act (CEQA), and other information sources.

4.3.1 Methodology for Analysis

GHG emissions would be generated by project activities, both directly and indirectly. Climate change effects are a cumulative, global issue. To fully assess the AEWP, one must consider the project-level cumulative emissions against the likelihood that the No-Build Alternative would result in a project being developed elsewhere to meet the demand, regulatory or market based, that created the basis for the proposed development of the AEWP. The analysis looks to several scales of impact (project specific, statewide, and national). Each level serves as an element of the whole GHG analysis. If any level exceeds the thresholds defined for this analysis, then the GHG impact is considered significant and unavoidable.

The baseline for analysis varies by the particular regulatory framework and manner in which the emissions and impacts are determined. In the instance of CEQA's analysis of global climate change impacts, the business-as-usual (BAU) emissions estimates (and methodology for those estimates) as well as California's stated policy objectives (as established in actions of responsible agencies) define the point of relevance for impacts associated with a given discretionary act.

BAU is a term used by California agencies to describe the rate of GHG emissions, under a scenario of no climate regulations. It projects into the future of the GHGs that projects could foreseeably emit based on current technologies and existing regulations in the absence of other reductions. BAU includes forecasts of demographic and economic growth, whereas the historic CEQA baseline non-GHG impact analysis does not include growth factors. Understanding this difference between historic CEQA analyses and the GHG element of CEQA is critical to a reasoned analysis of global climate change impacts. The baseline for GHGs is BAU.

The stated policy objectives are driven by executive orders, SBX1-2, AB 32, and other legislative acts. Some of the policy objectives are defined by zero net energy, low-carbon fuel standards, a renewable portfolio standard, and AB 32 objectives.

Project-specific GHG emissions were estimated by the AEWP Proponent using the URBEMIS model, version 9.2.4, for off-road equipment emissions and the emission factors the California Air Resources Board's EMFAC 2007 model for Kern County for on-road emissions.

4.3.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist, as amended by the California Natural Resources Agency and adopted by the Office of Administrative Law on February 16, 2010, state that a project would have significant impacts on GHG emissions if it would:

CC-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,

CC-2 Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases

4.3.3 Alternative A: Project

4.3.3.1 GHG Emissions Impacts

Neither Eastern Kern Air Pollution Control District (EKAPCD), nor any other federal, state, or local agency with jurisdiction over the AEWP property has adopted a threshold to measure a project's GHG emission impact. Global climate change is an international phenomenon, and the regulatory background and scientific data are changing rapidly. As noted above, AB 32 was adopted in 2006 as the California Global Warming Solutions Act of 2006. AB 32 describes how global climate change would impact the environment in California. The impacts described in AB 32 include changing sea levels, changes in snow pack and availability of potable water, changes in storm flows and flood inundation zones, and other impacts.

The list of impacts included in AB 32 may be considered substantial evidence of environmental impacts requiring analysis in CEQA documents. AB 32 requires CARB, the State agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to statewide levels in 1990 by 2020. On or before June 30, 2007, CARB was required to publish a list of discrete early action greenhouse gas emission reduction measures that could be implemented by 2010.

As required by AB 32, CARB determined what the statewide greenhouse gas emissions level was in 1990, and approved a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020. In order to establish a reference point for future GHG emissions, CARB projected CO_2e emissions were based on an unregulated, BAU GHG emissions scenario that did not consider the GHG emission reductions required by Executive Order S-3-05 or AB 32. CARB has stated that California contributed 427 million metric tons of GHG emissions in CO_2e in 1990, and under a BAU development scenario, will contribute 596 million metric tons of CO_2e emissions in 2020. This presents a linear upward trend in California's total GHG emissions. CARB approved the 2020 limit on December 6, 2007.

Climate Change Impacts on the Project

AB 32 indicates that "the potential effects of global climate change include the exacerbation of air quality problems, a reduction in the quality and supply of water to the State from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidence of infections, disease, asthma, and other health-related problems" (AB 32, section 38501[a]).

According to the California Climate Change Center (CCCC), climate change impacts would affect all of the sectors considered in this report: sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. Additionally, climate change could produce compounding impacts. For instance, in the San Francisco Bay Delta, heightened sea levels and high river inflows from warmer storms would place levee systems in greater jeopardy of flooding. The CCCC indicates that some of the most dramatic climate change impacts would be experienced as increased frequency and severity of extreme events, such as heat waves, wildfires, flooding, and conditions conducive to air pollution formation.

The AEWP must comply with Title 24 energy efficiency standards. Any new passenger vehicles and pickup trucks would produce fewer GHG emissions than those produced today with implementation of AQ 1493. Regulations stemming from AB 32 would result in reductions in emissions from major sources such as electrical power generation and cement production. Although it is unknown if AB 32 alone is enough to reduce California's fair-share contribution to global GHG inventory, it is currently the only well-defined and widely accepted benchmark for GHG emissions in California. The threshold that is to be used for the AEWP is as follows:

- Would the project be consistent with California's strategies to reduce greenhouse gas emissions to the levels in AB 32?

This threshold is qualitative in nature, and is addressed as such in this analysis. Note that the thresholds and the analysis may not be relevant to other projects. Therefore, this analysis does not establish thresholds in Kern County.

The following approach is used to address the threshold and assess the significance of the AEWP's contribution to global climate change:

1. Inventory: An inventory of greenhouse gas emissions generated by the project is presented for informational purposes. The inventory is compared to the inventory for California and the United States and a local inventory, if available.
2. Compliance with Strategies: project compliance with the current California emission reduction strategies to reduce greenhouse gases is assessed.
3. Climate Change Impacts on project: The potential impacts of climate change on the Project are assessed.
4. Attorney General Mitigation Analysis: The California Attorney General has published a list of CEQA Mitigation for Global Climate Change Impacts. The feasibility of the mitigation measures is determined for the Project.

Project GHG Inventory

The AEWP would generate direct GHG emissions during construction, operation, and decommissioning. Direct GHG emissions during construction would be generated from use of off-road equipment (such as graders, cranes, and excavators) and from on-road construction vehicle trips. Heavy haul trips for WTGs and other construction materials like water, aggregate and cement for concrete production and commute driving by construction employees). As a wind energy project, the AEWP would have no primary direct CO_2 emissions from electricity production during operation; however, there are other minor sources of GHG emissions that result from site operations, including the use of off-road equipment, on-road vehicles used for inspection and maintenance and personnel commuting, and minor leakage from electrical equipment containing SF_6 (Sulfur hexafluoride), which is used in insulation materials, circuit breakers, etc. to manage high voltages. The AEWP is likely to result during its operation in a large indirect reduction in GHG emissions due to the displacement of electricity generated by fossil fuel-fired power plants, offset by a small indirect increase in GHG emissions due to the loss of carbon uptake from the removal of vegetation.

Construction

The estimated direct GHG emissions from construction for the AEWP, including the secondary direct emissions from offsite construction trips, are presented in Table 4.3-1. Detailed assumptions are included in Appendix G.

The amortized annual average GHG emissions over the 30-year project life would be 184.5 $MTCO_2e$/year.

Table 4.3-1. Total Construction Period Emissions[1]

Source	$MTCO_2e$ [2]
Onsite Equipment	4,062
Onsite Vehicles	428
Offsite Vehicles	1,046
Total	5,536

Source: Appendix G

[1] The total emissions are for the entire 8-month construction period.

[2] Total CO_2e emissions are calculated based on total CO_2 emissions, assuming 95% of CO_2e emissions are CO_2 emissions.

Operation and Maintenance

The estimated direct GHG emissions from operations related to the AEWP, including the emissions from employee and delivery traffic trips, other maintenance and operation activities, and the emergency generator are presented in Table 4.3-2. Because the AEWP also includes a new onsite substation, the SF_6-containing equipment may have minor leaks of this greenhouse gas. For the purposes of the GHG emissions estimate, the total SF_6 emissions are conservatively based on a requirement for two 230 kV circuit breakers, containing 150 pounds of SF_6 each, and the assumption that an annual leakage rate as high as 0.5 percent per year could occur. The Global Warming Potential of 23,900 is used to estimate the SF_6 GHG emissions in CO_2e. Also presented in this table is the project life amortized construction GHG emissions and an estimate of the GHG emissions displaced from the AEWP's electrical production.

Assuming that the AEWP will have: (a) a generating capacity of 318 MW; (b) an annual capacity factor of 29 percent; and, (c) an average GHG emission factor of 681 lbs CO_2/MWh for electricity provided by California utilities (USEPA, 2011e), the energy produced by the AEWP would displace 249,498 $MTCO_2$/year, or 262,630 $MTCO_2e$/year, as shown below in Table 4.3-2. This is assuming that CO_2 is 95 percent of the CO_2e emissions for electricity generation, which would otherwise be emitted by fossil fuel-fired power plants. This amount is more than sufficient by orders of magnitude, to offset the AEWP's construction and operation GHG emissions, such that the AEWP would induce a large reduction in system-wide GHG emissions.. However, the exact nature and location of such reductions is not known, and they would drop over time as So Cal Edison (SCE) changes its generation profile over time to comply with State regulations. Regardless, the AEWP would provide a net reduction in GHG emissions for the electricity-generating sector.

Table 4.3-2. Annual Operation Emissions[1]

Source	$MTCO_2e$/ Year[1]
Vehicle Emissions	249
Off-road Maintenance Equipment Emissions	26
Emergency Generator Engine	41
SF_6-Containing Equipment Leakage	16
Total Operation Emissions	**332**
Amortized Construction Emissions	**185**
Total Annualized Direct Emissions	**517**
Displaced Annual GHG Emissions	**(262,630)**
Net AEWP Annual GHG Emissions	**(262,113)**

Source: Appendix G

[1] Total CO_2e emissions are calculated based on total CO_2 emissions, assuming 95% of CO_2e emissions are CO_2 emissions.

The AEWP would clear land and remove vegetation, which would reduce the ongoing natural carbon uptake by vegetation and the soil. A study of the Mojave Desert indicated that the desert may uptake carbon in amounts as high as 100 grams per square meter per year (Stone, 2008). This would equate to a maximum reduction in carbon uptake, calculated as CO_2, of 1.48 MT tons of CO_2 per acre per year for areas with complete vegetation removal. For this AEWP, which would require approximately 93.97 acres of permanently disturbed areas of vegetation removal, the equivalent loss in carbon uptake would be 139 $MTCO_2e$/year, which would correspond to 0.00017 $MTCO_2e$/MWh generated, for a maximum equivalent of 0.05 $MTCO_2e$/year for this 318 MW project. Therefore, the natural carbon uptake loss would be negligible in comparison to the reduction in fossil fuel CO_2 emissions that may range from 0.38 ton to 1.1

tons of CO_2 per MWh depending on the fuel and technology of the energy generation displaced by the AEWP.

Compliance with Strategies

Table 4.3-3 identifies current California emission reduction strategies to reduce greenhouse gases and identifies the applicability of each strategy and the Project design feature or mitigation measure that is proposed to comply with the applicable strategies.

Table 4.3-3. California Greenhouse Gas Emission Reduction Strategies

Strategy	Project Design/Mitigation to Comply with Strategy
Vehicle Climate Change Standards: AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004.	These are CARB enforced standards; vehicles that access the AEWP that are required to comply with the standards would comply with these strategies.
Other Light Duty Vehicle Technology: New standards would be adopted to phase in beginning in the 2017 model.	
Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Consistent with Mitigation Measures 4.2-2 (Construction Equipment Emissions Reduction**)** and 4.2-3 in Section 4.2 (Operation Fugitive Dust and Equipment Emissions Reduction), Air Quality.
Hydrofluorocarbon Reduction: 1) Ban retail sale of HFC in small cans; 2) Require that only low GWP refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leaktightness to the pass criteria for vehicular Inspection and Maintenance programs; 5) Enforce federal ban on releasing HFCs.	Not applicable
Transportation Refrigeration Units (TRU), Off-Road Electrification, Port Electrification: Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	Not applicable
Manure Management: Reduction of volatile organic compounds from confined animal facilities through implementation of control options.	Not applicable
Alternative Fuels - Biodiesel Blends: CARB would develop regulations to require the use of 1 to 4 percent (1 to 4%) biodiesel displacement of California diesel fuel.	Not applicable
Alternative Fuels - Ethanol: Increased use of ethanol fuel.	Not applicable

Table 4.3-3. California Greenhouse Gas Emission Reduction Strategies

Strategy	Project Design/Mitigation to Comply with Strategy
Achieve 50 percent (50%) Statewide Recycling Goal: Achieving the State's 50 percent (50%) waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent (48%) has been achieved on a statewide basis. Therefore, a 2 percent (2%) additional reduction is needed.	Not applicable
Zero Waste - High Recycling: Additional recycling beyond the State's 50 percent (50%) recycling goal.	Not applicable
Landfill Methane Capture: Install direct gas use or electricity projects at landfills to capture and use emitted methane.	Not applicable
Urban Forestry: A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	Not applicable
Afforestation/Reforestation Projects: Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.	Not applicable
Water Use Efficiency: 19 percent (19%) of all electricity, 30 percent (30%) of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	Not applicable
Building Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	These are regulated requirements under California Code of Regulations Title 24, Part 6 that would be enforced by the agency responsible for issuing building permits.
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	Not applicable
Cement Manufacturing: Cost-effective reductions to reduce energy consumption and to lower carbon dioxide emissions in the cement industry.	Not applicable

Table 4.3-3. California Greenhouse Gas Emission Reduction Strategies

Strategy	Project Design/Mitigation to Comply with Strategy
Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment.	Not applicable
Smart land use, demand management, ITS, and value pricing are critical elements for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	Not applicable
Enteric Fermentation: Cattle emit methane from digestion processes. Changes in diet could result in a reduction in emissions.	Not applicable
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2005), sets a goal of reducing energy use in public and private buildings by 20 percent (20%) by the year 2015, as compared with 2003 levels.	The goals of this initiative have been considered in the 2008 Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR 24 Part 6) that, as noted previously, the AEWP will have to comply with when obtaining building permits.
California Solar Initiative: Installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	Not applicable

Source: State of California, Environmental Protection Agency, Climate Action Team, CAT 2006.

Attorney General Mitigation Analysis

The Office of the California Attorney General maintains a website with a list of CEQA Mitigations for Global Climate Change Impacts. The Attorney General has listed some examples of types of mitigations that local agencies may consider to offset or reduce global climate change impacts from a project. The Attorney General assures that the presented lists are examples and not intended to be exhaustive but instead provides measures and policies that could be undertaken. Moreover, the measures cited may not be appropriate for every project, so the Attorney General suggests that the lead agency should use its own informed judgment in deciding which measures it would analyze, and which measures it would require, for a given project.

The Attorney General suggests measures that could be undertaken or funded by a diverse range of projects, related to energy efficiency; renewable energy; water conservation and efficiency; solid waste measures; land use measures; transportation and motor vehicles; and carbon offsets. However, most of the suggested measures would not be applicable to the AEWP, since they are more appropriate as applicable measures to reduce long-term operational GHG emissions.

Feasible Mitigation

CEQA requires that all feasible mitigation be applied to the AEWP to reduce impacts from construction and operations on air quality. KCGP Implementation Measure G, described in section 4.2 Air Quality would reduce diesel exhaust emissions, which would also reduce GHG emissions from diesel exhaust. These measures (MM 4.2-2 and MM 4.2-3) are included in Section 4.2 Air Quality of this Proposed Plan Amendment Final Environmental Impact Report/Environmental Impact Statement (EIS/EIR).

While it is not possible to determine whether the AEWP individually would have a significant impact on global warming or climate change, the direct emissions from construction and operation of the AEWP would constitute a small fraction of the statewide GHG emissions. As noted in Tables 4.3-2 and 4.3-3, the AEWP would generate GHG emissions during construction and a very small amount of GHG emissions during operations; however, it should be noted that the wind energy provided by the AEWP is a much cleaner source of energy than traditional sources used for the generation of electricity, such as the burning of coal, fuel oil, or natural gas. Since wind energy creates no direct CO_2 emissions, the size of CO_2 reductions from wind energy generation depends on what type of electric generation would be displaced by the addition of the wind energy.

Considering the AEWP's direct and indirect GHG emission increases as well as the indirect GHG emission decreases, it is clear that the indirect emissions reduction would offset the construction and operating emissions and the AEWP would reduce GHG emissions. Additionally, when considering the AEWP in an even broader energy context, "A wind turbine typically takes only a few months (3-8, depending on the average wind speed at its site) to "pay back" the energy needed for its fabrication, installation, operation, and retirement." (AWEA, 2011), the AEWP would result in a reduction in GHG emissions. However, the exact nature and location of such reductions is not known and they may not occur near the AEWP site area, and they would drop over time as SCE changes its generation profile overtime as necessary to comply with State regulations. Regardless, this renewable energy project would provide a net reduction in GHG emissions for the electricity generating sector.

The impacts on global warming and climate change are indirect, not direct, and the emissions cannot be correlated with specific impacts based on currently available science. Climate change is a worldwide phenomenon, and local government lacks the expertise, or regulatory authority, to develop the scientific tools and policy needed to select a CEQA significance threshold for climate change or GHG emissions. The AEWP would be subject to any regulations or requirements adopted under AB 32 or imposed by the State or federal government. As there are no adopted thresholds or other tools available to assess the impacts, it cannot be determined if a project would have a significant impact on global warming or climate change. The determination of project level significance, is therefore, considered speculative and less than significant considering the AEWP's anticipated reduction in overall GHG emissions. Additionally, as a renewable energy project, the AEWP would contribute to achieving the mandated emission reduction targets established by AB 32.

Decommissioning

Decommissioning of the AEWP would require removal of the rotors, nacelle, towers, and electrical collection system and transporting all components off site. After removal of equipment and facilities, the site would need to be re-vegetated. Equipment used for decommissioning would generally be similar to that used for construction, but the overall activity necessary during decommissioning would be much less than that of construction. Because decommissioning would occur after at least 30 years of operation, it is likely

that equipment engine technology would be more advanced and fuel emissions would be cleaner. Therefore, it is anticipated that GHG emissions generated from decommissioning would be equal to, or more likely less than, those from construction that are estimated above.

4.3.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Construction/Operation and Maintenance/Decommissioning

Evaluation of CEQA significance for GHG/Climate Change, which is both a long-term and global impact, is based on the effects of the entire project from construction through decommissioning.

- **CC-1 (Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment).** . The AEWP would emit an annualized average of 517 $MTCO_2e$/year, as presented in Table 4.3-2 above. These direct GHG emissions are well below the interim draft CARB significance threshold of 7,000 $MTCO_2e$/year for industrial projects, not including the emission reductions from the electrical sector that will be enabled by the AEWP's operation. While the AEWP would generate GHG emissions during construction and a small amount of GHG emissions during operations, it should be noted that the wind energy provided by the AEWP is a much cleaner source of energy than traditional sources used for the generation of electricity, such as the burning of coal, fuel oil, or natural gas. Since wind energy creates no direct CO_2 emissions, the size of CO_2 reductions from wind energy generation depends on what type of electric generation would be displaced by the addition of the wind energy. As noted in Table 4.3-2, the energy produced by the AEWP could displace 262,630 metric tons of CO_2e or more that would otherwise be emitted by fossil fuel fired power plants. This is more than sufficient to offset the AEWP's GHG emissions, and the AEWP would have negative net GHG emissions. However, the exact nature and location of such reductions is not known and they may not occur near the AEWP site area. Regardless, this renewable energy project would provide a net reduction in GHG emissions for the electricity generating sector. The AEWP as a whole will enable GHG emission reductions within the electricity generation sector; therefore, the impacts of the AEWP would not only be less than significant but also beneficial.
- **CC-2 (Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs).** As a wind power project, the AEWP would fulfill a portion of the renewable portfolio that is mandated for California and reflected in the CARB AB32 Scoping Plan, partially satisfying the goals of the California Renewable Energy Programs (as described above in Climate Change Policies and Regulations). Additionally, the emission reductions enabled by AEWP would help reach the AB32 emission reduction goals for the electricity generation sector. Therefore, the AEWP would conform to applicable plans, policies, and regulations related to GHG emission reductions and would have less-than-significant impacts.

  A summary of the compliance with all potentially applicable GHG plans, policies, and regulations is provided below in Table 4.3-4.

Table 4.3-4. Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions

Adopted Plan, Policy, or Regulation	Consistency Determination	The Project Consistency
Federal		
40 CFR Part 98. Mandatory Reporting of Greenhouse Gases Rule.	Not Applicable	The AEWP would have direct CO_2e operating emissions that are well below the 25,000 ton/year rule trigger.
40 CFR Part 52. Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.	Not Applicable	The AEWP would have direct CO_2e operating emissions that are well below the 75,000 ton/year rule trigger.

Table 4.3-4. Project Consistency with an Applicable Plan, Policy, or Regulation for GHG Emissions

Adopted Plan, Policy, or Regulation	Consistency Determination	The Project Consistency
State		
SB 1368. EPS Standard.	Consistent	The AEWP, as a renewable energy generation facility, is determined by rule to comply with the GHG Emission Performance Standard requirements of SB 1368.
SB X1-2. 33 Percent (33%) RPS Standard.	Indirectly Consistent	This regulation is applicable to utilities not generating facilities, but the energy from the AEWP would help enable the utility buying the AEWP's generation to comply with this executive order.
AB 32. Annual GHG Emissions Reporting	Not Applicable	The AEWP, as a wind energy generation project, is exempt from the mandatory GHG emission reporting requirements for electricity generating facilities as currently required by the CARB for compliance with the California Global Warming Solutions Act of 2006 (AB 32 Núñez, Statutes of 2006, Chapter 488, Health and Safety Code sections 38500 et seq.).
AB 32. Cap-and-trade	Not Applicable	The AEWP's direct CO_2e emissions would be well below the applicability threshold of 25,000 MT CO_2e. Additionally, as a wind energy generation project, AEWP would reduce GHG emissions by displacing electricity generated by traditional generators.
Local		
Kern County General Plan - Air Quality Element Policies Goals and Implementation Measures	Consistent	Air Quality 4.2-1 (Construction Fugitive Dust Emission Reduction), 4.2-2 (Construction Equipment Emissions Reduction), and 4.2-3 (Operation Fugitive Dust and Equipment Emissions Reduction) will ensure that the AEWP is consistent with the General Plan's Air Quality Element Policies Goals and Implementation Measures that will indirectly reduce GHG emissions by reducing fossil fuel combustion.

4.3.4 Alternative B: Revised Site Layout

4.3.4.1 GHG Emissions Impacts

Construction and operation/maintenance activities associated with Alternative B would nearly identical to the Alternative A, as Alternative B consists of a revised site layout while all other features would be identical to Alternative A.

Construction

Construction emissions of greenhouse gases for Alternative B would nearly identical to those for Alternative A as presented in Table 4.3-1.

Operation and Maintenance

Operation emissions of greenhouse gases for Alternative B would nearly identical to those for Alternative A as presented in Table 4.3-2.

Decommissioning

Decommissioning of Alternative B would require the same types of activities and equipment as described for Alternative A construction. Because decommissioning would occur 30 years in the future, it is likely that equipment engine technology would be more advanced and fuel would be better, and therefore emissions are likely to be less than those estimated for Alternative A.

4.3.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative B would be identical to that for Alternative A as described in Section 4.3.3.2 above.

4.3.5 Alternative C: Reduced Project North

4.3.5.1 GHG Emissions Impacts

Construction activities associated with Alternative C would be slightly less than Alternative A due to the reduced number of wind turbine generators to be installed. Consequently, construction duration would be shorter and total amount of construction activity would be less. Certain construction activities, such as road construction would not be linear with the reduction in WTGs. Operation/maintenance activities required would be similar to the AEWP, but reduced somewhat due to the reduction in the number of WTGs and related infrastructure.

Construction

Total construction GHG emissions for Alternative C would be less than Alternative A due to the reduced number of wind turbine generators. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 97.
- The emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. This assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.

Table 4.3-5 summarizes total construction GHG emissions. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

The amortized annual average GHG emissions over the 30 year project life would be 172 MTCO2e/year.

Table 4.3-5. Total Construction Period Emissions[1]

Source	$MTCO_2e$ [2]
Onsite Equipment	3,786
Onsite Vehicles	399
Offsite Vehicles	975
Total	5,160

Source: Interpolation of Appendix G Alternative A emissions.
[1] The total emissions are for the entire construction period.
[2] Total CO_2e emissions are calculated based on total CO_2 emissions, assuming 95% of CO_2e emissions are CO_2 emissions.

Operation and Maintenance

Operation of Alternative C would result in slightly lower annual greenhouse gas emissions compared to Alternative A. It is likely that Alternative C would require the same level of maintenance for most of operation/maintenance elements, but it would require slightly less operating hours of equipment used for wind turbine generator and access road maintenance. Emission reductions would be less than that under Alternative A, since the capacity and associated generation of Alternative C would be less than the Alternative A. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 97.
- The vehicle and off-road emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. The assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.
- The emergency generator and SF_6 containing equipment emissions do not change from those estimated for Alternative A.
- The indirect emission reductions are directly proportional to the change in generating potential (MWh), where this alternative is based on a total 291 MW size and an annual capacity factor of 29 percent.

Table 4.3-6 summarizes annual operation GHG emissions. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.3-6. Annual Operation Emissions

Source	$MTCO_2e$/ Year[1]
Vehicle Emissions	232
Off-road Maintenance Equipment Emissions	24
Emergency Generator Engine	41
SF_6-Containing Equipment Leakage	16
Total Operation Emissions	**313**
Amortized Construction Emissions	**172**
Total Annualized Direct Emissions	**485**
Displaced Annual GHG Emissions	**(240,331)**
Net AEWP Annual GHG Emissions	**(239,846)**

Source: Interpolation of Appendix G Alternative A emissions.

[1] Total CO_2e emissions are calculated based on total CO_2 emissions, assuming 95% of CO_2e emissions are CO_2 emissions.

Decommissioning

Decommissioning of Alternative C would require the same types of activities and equipment as described for Alternative A construction. Because decommissioning would occur 30 years in the future, it is likely that equipment engine technology would be more advanced and fuel would be better, and therefore emissions are likely to be less than those estimated above for Alternative A.

4.3.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Construction/Operation and Maintenance/Decommissioning

While the GHG beneficial effects are reduced, the CEQA significance determinations for Alternative C would be identical to that for Alternative A as described in Section 4.3.3.2 above.

4.3.6 Alternative D: Reduced Project Southwest

4.3.6.1 GHG Emissions Impacts

Construction activities associated with Alternative D would be slightly less than the Proposed Action due to the reduced number of wind turbine generators to be installed. Consequently, construction duration would be shorter. Operation/maintenance activities required would be similar to the AEWP, but reduced somewhat due to the reduction in the number of WTGs and related infrastructure.

Construction

Total construction GHG emissions for Alternative D would be less than Alternative A due to the reduced number of wind turbine generators. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 87.
- The emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. The assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.

Table 4.3-7 summarizes total construction GHG emissions. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.3-7. Total Construction Period Emissions[1]

Source	$MTCO_2e$ [2]
Onsite Equipment	3,480
Onsite Vehicles	367
Offsite Vehicles	896
Total	4,742

Source: Interpolation of Appendix G Alternative A emissions.
[1] The total emissions are for the entire construction period.
[2] Total CO_2e emissions are calculated based on total CO_2 emissions, assuming 95% of CO_2e emissions are CO_2 emissions.

The amortized annual average GHG emissions over the 30-year project life would be 158 $MTCO_2e$/year.

Operation and Maintenance

Operation of Alternative D would result in slightly lower annual greenhouse gas emissions compared to Alternative A. It is likely that Alternative D would require the same level of maintenance for most of operation/maintenance elements, but it would require slightly less operating hours of equipment used for wind turbine generator and access road maintenance. Emission reductions would be less than that under the Alternative A, since the capacity and associated generation of Alternative D would be less than the Alternative A. The emissions have been interpolated from the Alternative A emissions estimate using the following assumptions:

- The number of WTGs is reduced from 106 to 87.
- The vehicle and off-road emissions are reduced using 80 percent of a straight linear reduction based on the reduction in WTGs. The assumption considers the fact that certain activities would not be reduced linearly with the reduction in wind turbines.

- The emergency generator and SF_6 containing equipment emissions do not change from those estimated for Alternative A.
- The indirect emission reductions are directly proportional to the change in generating potential (MWh), where this alternative is based on a total 267 MW size and an annual capacity factor of 29 percent.

Table 4.3-8 summarizes annual operation GHG emissions. Detailed assumptions of the Alternative A emissions estimate that was used to develop this interpolated emissions estimate are included in Appendix G.

Table 4.3-8. Annual Operation Emissions[1]

Source	$MTCO_2e$/ Year[1]
Vehicle Emissions	213
Off-road Maintenance Equipment Emissions	22
Emergency Generator Engine	41
SF_6 Containing Equipment Leakage	16
Total Operation Emissions	**293**
Amortized Construction Emissions	**158**
Total Annualized Direct Emissions	**451**
Displaced Annual GHG Emissions	**(220,510)**
Net AEWP Annual GHG Emissions	**(220,059)**

Source: Interpolation of Appendix G Alternative A emissions.

[1] Total CO_2e emissions are calculated based on total CO_2 emissions, assuming 95% of CO_2e emissions are CO_2 emissions.

Decommissioning

Decommissioning of Alternative D would require the same types of activities and equipment as described for Alternative A construction. Because decommissioning would occur 30 years in the future, it is likely that equipment engine technology would be more advanced and fuel would be better, and therefore emissions are likely to be less than those estimated above for Alternative A.

4.3.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Construction/Operation and Maintenance/Decommissioning

While the GHG beneficial effects are reduced, the CEQA significance determinations for Alternative D would be identical to that for Alternative A as described in Section 4.3.3.2 above.

4.3.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action / No Project)

4.3.7.1 GHG Emissions Impacts

Under this alternative, the AEWP would not be approved and BLM would not amend the CDCA Plan. As a result, no wind energy project would be constructed on the site and BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan.

The results of this alternative would be the following:

- The impacts of the AEWP would not occur. However, the land on which the AEWP is proposed would become available to other potential uses that are consistent with BLM's land use plan, including another renewable energy project.
- The benefits of the AEWP in displacing fossil fuel-fired generation and reducing associated GHG emissions from gas-fired generation would not occur. Both State and Federal law support the increased use of renewable power generation.

If Alternative A is not approved, renewable projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State mandates. Several dozen wind and solar development applications for use of BLM land have been submitted for approximately one million acres of the CDCA. Additional BLM land in Nevada and Arizona also has applications for wind and solar projects. Some of these other renewable energy projects may be constructed, and those projects could have similar impacts as the AEWP in other locations.

4.3.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action / No Project)

Under this Alternative, the activities at the site are not expected to change noticeably from existing conditions. As such, this No Action Alternative would not result in direct GHG emission impacts generated by the Proposed Action nor would it result in the GHG emission benefits associated with the implementation of the Proposed Action. In the absence of the AEWP, other renewable energy projects may be constructed to meet State mandates, and those projects could have similar impacts as the AEWP in other locations.

4.3.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.3.8.1 GHG Emissions Impacts

Under this alternative, the AEWP would not be approved and the BLM would amend the CDCA Plan to make the proposed site unavailable for future wind energy development. As a result, no wind energy project would be constructed on the site and BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan.

Because the CDCA Plan would be amended to make the area unavailable for future wind energy development, it is expected that the site would continue to remain in its existing condition, with no new structures or facilities constructed or operated on the site.

4.3.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Under this Alternative, the activities at the site are not expected to change noticeably from existing conditions. As such, this No Project Alternative would not result in direct GHG emission impacts generated by the Proposed Action nor would it result in the GHG emission benefits associated with the implementation of the Proposed Action. In the absence of the proposed Alta East Wind Project, other renewable energy projects may be constructed to meet State and mandates, and those projects could have similar impacts as the AEWP in other locations.

4.3.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.3.9.1 GHG Emissions Impacts

Under this Alternative, the AEWP would not be approved and BLM would amend the CDCA Plan to allow for other wind energy projects on the site. As a result, it is possible that another wind energy project could be constructed on the site.

Because the CDCA Plan would be amended, it is possible that the site would be developed with the same or a different wind energy technology. As a result, GHG emissions and impacts would result from the construction and operation of the wind energy technology and would likely be similar to the GHG impacts from the AEWP. Different wind technologies require different amounts of construction and operations maintenance; however, the benefits of the AEWP in displacing fossil fuel fired generation and reducing associated GHG emissions could occur with a different wind energy technology at this site and therefore with this alternative.

4.3.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

This Alternative could result in future GHG impacts and benefits similar to those of the Alternative A.

4.3.10 Cumulative Impacts

Under AB 32, the CARB, the sole agency in charge of regulating sources of emissions of GHG in California, has been tasked with adopting regulations for reduction of GHG emissions. The effects of the AEWP are evaluated based not upon the quantity of emissions, but rather on whether the AEWP implements reduction strategies identified in AB 32, enables utilities to partially meet RPS requirements mandated by Senate Bill X1-2, or other strategies to help toward reducing GHGs to the level proposed by the governor. If so, it could reasonably follow that the AEWP would not result in a significant contribution to the cumulative impact of global climate change.

Project-related activities would contribute to the generation of GHG emissions during construction and indirectly contribute to the reduction of GHG emissions during operation by providing low-GHG electricity to California customers. The applicable GHGs that have been quantitatively estimated for the AEWP include CO_2, CH_4, N_2O, and SF_6. PFCs and HFCs are not applicable because they are refrigerants that are not used in the AEWP.

The April 2011 Air Quality Technical Report contains a full analysis of GHGs and calculated GHG emissions, as previously summarized in Tables 4.3-1 and 4.3-2. Please refer to Appendix G (Air Quality Technical Report) for the complete analysis and assumptions used in GHG emissions calculations. The total GHG emissions for project-related construction equipment activity would be about 5,536 metric tons of CO_2e. These emissions take credit for the additional CEQA mitigations for other impact reductions or certain AEWP design features such as the limit placed on idling for construction vehicles. The energy produced by the AEWP would displace as much as 260,000 metric tons of CO_2e annually that would otherwise be emitted by fossil fuel fired electricity generating facilities. Therefore, considering the AEWP's direct and indirect GHG emission increases as well as the indirect GHG emission decreases, it is clear that the indirect emissions reduction would offset the construction and operating emissions and the AEWP would reduce GHG emissions. Also, when considering the AEWP in an even broader energy context, "A wind turbine typically takes only a few months (three to eight, depending on the average wind

speed at its site) to "pay back" the energy needed for its fabrication, installation, operation, and retirement." (AWEA, 2011), the AEWP would result in a reduction in GHG emissions. However, the exact nature and location of such reductions is not known, they may not occur near the AEWP site area, and they would drop over time as SCE changes its generation profile overtime as necessary to comply with state regulations. Regardless, the AEWP would provide a net reduction in GHG emissions for the electricity generating sector. Additionally, the AEWP would fulfill a portion of the RPS that is mandated for California and reflected in the CARB AB 32 Scoping Plan and Senate Bill X1-2, partially satisfying the goals of the California Renewable Energy Programs (as described in above in Climate Change Policies and Regulations). Therefore, the AEWP's contribution to cumulative GHG emissions and global climate change does not require further analysis under NEPA.

4.3.10.1 CEQA Significance and Impact Determinations, Cumulative

- **CC-1 (Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment).** The AEWP's contribution to cumulative GHG emissions and global climate change would be less than significant under CEQA.
- **CC-2 (Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases).** The AEWP's contribution to cumulative GHG emissions and global climate change would be less than significant under CEQA.

4.3.11 Mitigation Measures

The AEWP would result in GHG emission reductions and would be beneficial for climate change, so no climate change/GHG emissions mitigation measures are recommended.

4.3.12 Residual Impacts After Mitigation

No climate change/GHG emissions mitigation is recommended as the AEWP's impacts would be beneficial. The AEWP would have no unavoidable adverse impacts related to climate change.

4.4 Cultural Resources

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on cultural resources. The applicable environmental and regulatory settings are discussed in Chapter 3.4.

4.4.1 Methodology for Analysis

This section describes effects on cultural resources that would be caused by implementation of the AEWP and alternatives. The following discussion addresses potential environmental impacts associated with implementation of the AEWP and recommends measures to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the AEWP and alternatives. A discussion of cumulative impacts related to cultural resources is also included in this section.

In addition to the analysis of impacts, one of the purposes of the present cultural resources analysis is to provide evidence of the ongoing public process by which the Bureau of Land Management (BLM) and Kern County (County) are jointly complying with Federal, State, and local regulations to which each agency is variously subject. The County is the lead agency for the purpose of complying with the California Environmental Quality Act (CEQA). The BLM is the lead agency for the purpose of complying with the National Environmental Policy Act (NEPA) and has further obligations to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470(f)), and other Federal historic preservation programs.

The structure of the cultural resources analysis for the AEWP accommodates both the primary need of Kern County to demonstrate, under CEQA, a consideration of the potential for the AEWP to affect cultural resources and the primary needs of the BLM to conduct similar analyses under NEPA and Section 106. The present analysis is intended to fulfill the largely parallel goals of the three regulatory programs (CEQA, NEPA, and NHPA) through the execution of the following five basic analytic phases: (1) Phase 1: Determination of the appropriate geographic extent of the analysis for the AEWP and for each alternative action under consideration. (2) Phase 2: Produce an inventory of the cultural resources in each such geographic area. (3) Phase 3: Determine whether particular cultural resources in an inventory are historically significant, unless resources can be avoided by construction. (4) Phase 4: Assess the character and the severity of the impacts of the AEWP or alternative actions on the historically significant cultural resources that cannot be avoided in each respective inventory. (5) Phase 5: Propose measures that would resolve significant impacts. The details of each of these phases follow below and provide the parameters of the present analysis.

4.4.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would normally be considered to have a significant impact on a cultural resources if it would:

CR-1 Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA Guidelines Section 15064.5;

CR-2 Cause a substantial adverse change in the significance of an archaeological resource, pursuant to State CEQA Guidelines Section 15064.5; or,

CR-3 Disturb any human remains, including those interred outside of formal cemeteries.

Under all of these criteria, adverse changes and impacts may include the following: (1) Physical, visual, or audible disturbance resulting from construction, operation, and development that would affect the integrity of a resource or the qualities that make it eligible for the CRHR; (2) Exposure of cultural resources to vandalism or unauthorized collecting; (3) A substantial increase in the potential for erosion or other natural processes that could affect cultural resources; (4) Neglect of a cultural resource that

causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe; or (5) Transfer, lease, or sale of a cultural resource out of agency ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the resource's historic significance.

4.4.3 Cultural Resources Evaluation Requirements under CEQA, NEPA, and the NHPA (Section 106).

A key part of a cultural resources analysis under CEQA, NEPA, or Section 106 is to determine which of the cultural resources potentially affected by the AEWP or alternative action are important or historically significant. Each of the three regulatory programs uses slightly different terminology to refer to historically significant cultural resources; clarifications on the use of the terms "historical resource," "important historic and cultural aspects of our national heritage," and "historic property" may be found in Section 106. Under the cited regulations, cultural resources that are determined not historically significant do not require any further consideration or management. Thus, subsequent impacts assessments are only made for those cultural resources that are determined to be historically significant. Cultural resources that can be avoided by construction can be assumed eligible for the National Register of Historic Places (NRHP) for project management purposes, but may remain unevaluated. The criteria for evaluation and the requisite thresholds of resource integrity that are, taken together, the measures of historical significance, vary among the three regulatory programs.

Evaluation of Historical Significance under CEQA

CEQA requires the County, as lead agency, to evaluate the historical significance of cultural resources by determining whether or not they meet several sets of specified criteria. Under CEQA, the definition of a historically significant cultural resource is that it is eligible for listing in the California Register of Historical Resources (CRHR). Such a cultural resource is referred to as a "historical resource," which is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR", or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code," or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (Cal. Code Regs., tit. 14, § 15064.5(a)). The term, "historical resource," therefore, indicates a cultural resource (including archaeological resources) that is historically significant and eligible for listing in the CRHR.

Section 21083.2(g) of CEQA further defines "unique archaeological resource" for purposes of determination as to whether a project may have a significant effect on archaeological resources. "Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Consequently, under the CEQA Guidelines, to be historically significant, a cultural resource must meet the criteria for listing in the CRHR (these criteria are essentially the same as the eligibility criteria for the NRHP). In addition to being at least 50 years old (or it can be demonstrated that sufficient time has passed

to understand its historical importance), a resource must meet at least one (and may meet more than one) of the following four criteria (Pub. Resources Code, § 5024.1):

- Criterion 1, is associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion 2, is associated with the lives of persons significant in our past;
- Criterion 3, embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values; or
- Criterion 4, has yielded, or may be likely to yield, information important to history or prehistory.

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (Cal. Code Regs., tit. 14, § 4852(c)).

Evaluation of Historical Significance under NEPA

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage." Cultural resources need not be determined eligible for the NRHP to receive consideration under NEPA. NEPA is implemented by regulations of the Council on Environmental Quality, 40 CFR 1500-1508. NEPA provides for public participation in the consideration of cultural resources issues, among others, during agency decision-making.

NEPA and NHPA require federal agencies to consider the effect of their undertakings on significant cultural resources, known as historic properties. The federal significance of an archaeological site or a built environment resource is defined by the NRHP, as discussed below.

Evaluation of Historical Significance under Section 106 (Eligibility of Cultural Resources for Inclusion in the National Register of Historic Places [NRHP])

The federal government has developed laws and regulations designed to protect cultural resources that may be affected by actions undertaken, regulated, or funded by federal agencies. Cultural resources are considered during federal undertakings chiefly under Section 106 of the NHPA through its implementing regulations, 36 CFR 800 (Protection of Historic Properties). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of NHPA.

Section 106 of NHPA (16 USC 470f) requires federal agencies to consider the impacts of their undertakings on historic properties, which includes any historic district, site, building, structure, object, or properties of traditional religious and cultural importance to Native American that are included in or eligible for inclusion in the NRHP. Section 106 also affords the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR Part 800.1). Under Section 106, federal agencies are required to assess the effects of an undertaking on historic properties to determine if they are adverse, and if so, to resolve such adverse effects through the development of a Memorandum of Agreement (MOA) or Programmatic Agreement (PA). Historic properties are those resources that are listed in or are eligible for listing on the NRHP per the criteria listed at 36 CFR 60.4 and are presented in the next subsection below.

Given that a portion of the AEWP is located on lands managed by BLM and requires authorization by the BLM, the AEWP is considered an undertaking, and therefore must comply with the NHPA and implementing regulations. NEPA addresses compliance with the NHPA, and the required environmental documentation, whether it is an Environmental Assessment (EA) or an EIS, must discuss cultural resources. It is important to recognize, however, that project compliance with NEPA does not satisfy all the requirements of the Section 106 process under the NHPA.

Under the NHPA (36 CFR Part 800), three steps are required to demonstrate compliance with Section 106: (1) identification of significant resources that may be affected by an undertaking; (2) assessment of project effects on those resources; and (3) development and implementation of measures to avoid, minimize, or mitigate adverse effects. All three steps require consultation with interested Native American tribes, local governments, and other interested parties.

Identification and National Register of Historic Places Evaluation under Section 106

36 CFR Part 800.3 discusses the consultation process. Section 800.4 sets out the steps the lead federal agency must follow to identify historic properties. 36 CFR Part 800.4(c)(1) outlines the process for NRHP eligibility determinations.

In accordance with National Park Service (NPS) regulations, 36 CFR Part 60.4, and guidance published by the NPS, National Register Bulletin, Number 15, How to Apply the National Register Criteria for Evaluation, different types of values embodied in districts, sites, buildings, structures, and objects are recognized. Generally, districts, archaeological sites, buildings, structures, and objects that possess integrity are potentially eligible for inclusion on the NRHP under the following criteria: (1) That are associated with events that have made a significant contribution to the broad patterns of our history; or, (2) That are associated with the lives of persons significant in our past; or, (3) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or, (4) That have yielded, or may be likely to yield, information important in prehistory or history.

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association. Cultural resources that are determined eligible for listing in the NRHP, along with State Historic Preservation Officer (SHPO) concurrence, are termed "historic properties" under Section 106, and are afforded the same protection as sites listed in the NRHP. Sites that have not been evaluated for eligibility to the NRHP are assumed eligible for project management purposes, until a formal evaluation can be completed.

The Project Area of Analysis and the Area of Potential Effect (APE)

The APE defines the geographic area within which a project has the potential to directly or indirectly affect historic properties and is used for CEQA, NEPA and NHPA analysis. The APE for the AEWP was developed in accordance with the Section 106 process (36 CFR § 800.16(d)) and in consultation with BLM archaeologist Donald Storm, of the BLM Ridgecrest Field Office.

For the purposes of the AEWP, the APE encompasses the approximately 2,575-acre AEWP boundary and a 15-meter buffer on either side of the 6-mile long transmission line corridor, as depicted on Figures 4.4-1a and 4.4-1b. The AEWP APE takes into account all potential direct (ground disturbance) and indirect (visual, noise, vibration, etc.) effects that may result from the AEWP. Indirect visual impacts associated with the AEWP are addressed in Section 4.19, Aesthetics of this EIS/EIR and will not be repeated here.

The vertical limits of the APE, which account for construction of above-ground structures and subsurface excavation, extend from approximately 410 feet above ground surface elevation for the WTGs, to maximum depths of approximately 35feet below ground surface for the underground collection lines, meteorological tower foundations, and turbine foundations.

Inventory of Cultural Resources in Project Area of Analysis

A cultural resources inventory specific to each project or alternative action under consideration is a necessary step in the effort to determine whether each such action may cause, under CEQA, a substantial adverse change in the significance of any cultural resources that are on or would qualify for the CRHR;

may, under NEPA, affect important historic and cultural aspects of our national heritage; or may, under Section 106, adversely affect any cultural resources that are listed on or are eligible for listing on the NRHP.

The development of a cultural resources inventory entails working through a sequence of investigatory phases to establish the universe of cultural resources that will be the focus of the analyses of each project or alternative action. These phases typically involve doing background research to identify known cultural resources, conducting fieldwork to collect data on previously unidentified cultural resources in the vicinity of an action, and assessing the results of any geotechnical studies or environmental assessments completed for a project site. The results of this research then support the development of determinations of significance for the cultural resources that are found. The inventory for the AEWP is discussed below in Section 4.4.3.1.

Assessing Action Impacts

The core of a cultural resources analysis under CEQA, NEPA, or NHPA/Section 106 is to assess the character of the impacts that a project or alternative action may have on historical resources/historic properties. The analysis takes into account 3 primary types of potential impacts which each of the three above regulatory programs defines and handles in slightly different ways. The three types of potential impacts include direct, indirect, and cumulative impacts. Once the character of each potential effect of a project or alternative action has been assessed, CEQA requires further assessment of whether such impact is significant (see CEQA Significance Criteria, above).

Direct and Indirect Impacts

Direct and indirect impacts are those that are more clearly and immediately attributable to the implementation of project or alternative actions. Direct and indirect impacts are conceptually similar under CEQA and NEPA. The uses of the concepts vary under Section 106 relative to their uses under CEQA and NEPA as discussed below.

Direct and Indirect Impacts under CEQA and NEPA

In the abstract, direct impacts to cultural resources are those associated with project development, construction, and co-existence. Construction usually entails surface and subsurface disturbance of the ground, and direct impacts to archaeological resources may result from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historic built-environment resources when those structures must be removed to make way for new structures or when the vibrations of construction impair the stability of historic structures nearby. New structures can have direct impacts on historic structures when the new structures are stylistically incompatible with their neighbors and the setting, and when the new structures produce a harmful effect to the materials or structural integrity of the historic structures, such as emissions or vibrations.

Generally speaking, indirect impacts to archaeological resources are those that may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility. Similarly, historic structures can suffer indirect impacts when project construction creates potentially damaging noise and vibration, improved accessibility and vandalism or greater weather exposure.

It should also be noted that NEPA requires the consideration of effects to both National Register-eligible cultural resources (identified through the Section 106 process), as well as effects to resources that may not be eligible. This includes consideration of cultural resources identified through the consultation process.

Adverse Effects under NHPA/Section 106

Rather than creating separate categories of direct and indirect impacts, the Section 106 regulations are focused on effects more broadly to historic properties. The regulatory definition of "effect," pursuant to 36 CFR § 800.16(i), is that the term "means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP." The NHPA is specifically concerned about adverse effects to those properties. The regulations identify adverse effects as occurring when an undertaking is found to "alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association (36 C.F.R. § 800.5(a)(1))." "Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 C.F.R. § 800.5(a)(1))." As noted above, historical properties under Section 106, include traditional cultural properties identified through the consultation process.

Cumulative Impacts

Cumulative Impacts are slightly different concepts under CEQA and NEPA, and are, under Section 106, undifferentiated as an aspect of the potential impacts of an undertaking, of a project or alternative action. The method of analysis is described below and the project-specific analysis is found in section 4.4.10.

Cumulative Impacts under CEQA

A cumulative impact under CEQA refers to a project's incremental impacts considered over time and taken together with those of other, nearby, past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the project (Pub. Resources Code sec. 21083; Cal. Code Regs., tit. 14, secs. 15064(h), 15065(a)(3), 15130, and 15355). Cumulative impacts to cultural resources in the project vicinity could occur if any other existing or proposed projects, in conjunction with the AEWP, had or would have impacts on historically significant cultural resources that, considered together, would be significant. The previous ground disturbance from prior projects and the ground disturbance related to the future construction of the AEWP and other proposed projects in the vicinity could have a cumulatively considerable effect on archaeological deposits, both prehistoric and historic. The alteration of the natural or cultural setting which could be caused by the construction and operation of the AEWP and other proposed projects in the vicinity could be cumulatively considerable, but may or may not be a significant impact to historically significant cultural resources.

Cumulative Impacts under NEPA

Cumulative actions are those that when viewed with the AEWP's have cumulatively significant impacts and should therefore be discussed in the same impact statement (40 C.F.R. 1508,25(a)(2)). According to the Council on Environmental Quality (CEQ) regulations as "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 C.F.R. 1508.7). As such, an individual action when considered alone may not have a significant effect, but when its effects are considered in sum with the effects of other past, present, and reasonably foreseeable future actions, the effects may be significant.

Cumulative Impacts under NHPA/Section 106

The Section 106 regulation makes explicit reference to cumulative impacts only in the context of a discussion of the criteria of adverse effect (36 CFR § 800.5(a)(1)). Cumulative impacts are largely undifferentiated as an aspect of the potential impacts of an undertaking. Such impacts are enumerated and resolved in conjunction with the consideration of direct and indirect effects.

Assessing the Level of Severity of Action Impacts

Once the character of the impacts that project or alternative actions may have on historically significant cultural resources has been determined, the severity of those impacts needs to be assessed. CEQA, NEPA, and Section 106 each have different definitions and tests that factor into decisions about how severe or how significant the impacts of particular actions may be.

Significant Impacts under CEQA

Under CEQA, "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (Pub. Resources Code, § 21084.1). Thus, staff analyzes whether the AEWP would cause a substantial adverse change in the significance, that is, the CRHR eligibility, of the subset of the historical resources in the cultural resources inventory for a project area that the project demonstrably has the potential to effect. The degree of significance of an impact depends on:

- The cultural resource impacted;
- The nature of the resource's historical significance;
- How the resource's historical significance is manifested physically and perceptually;
- Appraisals of those aspects of the resource's integrity that figure importantly in the manifestation of the resource's historical significance; and how much the impact will change those integrity appraisals.

Adverse Effects under Section 106

In accordance with 36 CFR Part 800.5 of the ACHP's implementing regulations, which describes criteria for adverse effects, an undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the NRHP. For the purpose of determining the type of effect, alteration to features of a property's location, setting, or use may be relevant, depending on the property's significant characteristics, and should be considered.

An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

- Physical destruction, damage, or alteration of all or part of the property
- Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP
- Introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting
- Neglect of the property, resulting in its deterioration or destruction
- Transfer, lease, or sale of the property

Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative. A formal effect finding under Section 106 relates to the project or alternative action as a whole rather than relating to individual resources.

Resolving Significant/Adverse Impacts

The final phase of a cultural resources analysis is the resolution of those impacts of a project or alternative action that have been found to be significant or adverse. The terminology used to describe the process of

impacts resolution differs among the three regulatory programs. The resolution of significant impacts under CEQA involves the development and implementation of "mitigation measures," which would minimize any such impacts (14 CCR § 15126.4). Mitigation under NEPA includes proposals that avoid or minimize any potential adverse effects of a project or alternative action on the quality of the human environment (40 CFR § 1502.14(f); 1502.16(h)). The definition of mitigation in the NEPA regulation includes the development of measures that would avoid, minimize, or rectify significant effects, progressively reduce or eliminate such effects over time, or provide compensation for such effects (40 CFR § 1508.20). The Section 106 process directs the "resolution of adverse effects" through the development of proposals to avoid, minimize, or otherwise mitigate such effects (36 CFR § 800.6(a)).

4.4.4 Alternative A: Project

Alternative A would generate up to 318 MW of electricity through wind power via up to 106 WTGs, a substation, transmission interconnection, access roads, and ancillary facilities. The AEWP area comprises 2,575 acres; however, the total wind energy development area (on both private and public land) would cover less acreage, as only a portion of wind energy development area would be temporarily or permanently disturbed.

4.4.4.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for the AEWP is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Construction of Alternative A would require both temporary and permanent disturbance areas and could result in the direct impact to known historic properties and unanticipated cultural resources including damage and/or displacement of resources, resulting in the loss of information about history and prehistory. As shown in Table 4.4-1, twenty-three (23) cultural resources are located within the AEWP APE. Of these 23 resources, 19 are located within the publically-owned portion of the AEWP area and 4 are located within the privately-owned portion of the AEWP. However, each of these resources has been deemed to be either ineligible for NRHP/CRHR status or not meeting the standards to warrant evaluation; with the exception of one site (S-29) within the publically-owned area. After reviewing site descriptions of each site and in consultation with local Native American tribes, the BLM, as lead federal agency under Section 106, has determined that only this one resource (S-29) is a historic property considered eligible for listing on the NRHP. These procedures are in accordance with the State Protocol Agreement among the California State Director of the BLM and the California SHPO (California State Protocol Agreement 2007). That resource therefore also qualifies as a historical resource eligible for listing on the CRHR. Site S-29 is a prehistoric habitation site with fire-affected rock features, groundstone, flake tools, and a circular depression. If left unaddressed, this resource could be destroyed by such AEWP features as WTGs and access roads.

Table 4.4-1. Known Resources Within the AEWP APE

Site Number	Site Type	Features / Cultural Constituents	NRHP Status	CRHR Status
Previously Recorded Resources in the AEWP APE				
15-000321	Prehistoric habitation site	Groundstone, fire-affected rocks, debitage	Not eligible	Not eligible
15-001703	Milling station	3 bedrock mortars, 1 flake tool	Not eligible	Not eligible
15-013889	Lithic scatter	Projectile point, flake tool, debitage	Not evaluated[1]	Not evaluated[1]

Table 4.4-1. Known Resources Within the AEWP APE

Site Number	Site Type	Features / Cultural Constituents	NRHP Status	CRHR Status
Newly Recorded Resources in the AEWP APE				
S-6	Can scatter; debitage	7 cans, fire-affected cobbles, 2 flakes	Not eligible	Not eligible
S-7	Can scatter	Solder dot cans, sanitary cans, scrap metal	Not eligible	Not eligible
S-8	Can scatter	Solder dot and sanitary cans	Not eligible	Not eligible
S-9	Can dump	300+ cans (solder dot, paint, sanitary, tins, beverage, drums)	Not eligible	Not eligible
S-10	Mining claim	Rock cairn with metal canister	Not eligible	Not eligible
S-11	Mining site	Prospect pit and fire ring	Not eligible	Not eligible
S-12	Lithic scatter	3 tool fragments and debitage	Not eligible	Not eligible
S-15	Historic well	Riveted pipe well, solder dot and sanitary cans	Not eligible	Not eligible
S-17	Historic refuse scatter	Hole-in-top cans, bottle fragments, amethyst glass sherds	Not eligible	Not eligible
S-18	Milling feature	Single bedrock mortar, no artifacts	Not eligible	Not eligible
S-19	Milling feature	Single bedrock mortar, no artifacts	Not eligible	Not eligible
S-21	Rock cairn	11 cobbles, no artifacts, unknown age	Not eligible	Not eligible
S-22	Rock cairn	Cobbles, no artifacts, unknown age	Not eligible	Not eligible
S-23	Rock cairn	Cobbles, milled wood post, unknown age	Not eligible	Not eligible
S-24	Historic refuse scatter	Hole-in-top and matchstick filler cans, bottle fragments, metal debris	Not eligible	Not eligible
S-25	Historic refuse scatter	Hole-in-top and matchstick filler cans, bottle fragments, amethyst glass sherds, metal debris	Not eligible	Not eligible
S-26	Fire-affected rock feature	70+ fire-affected rocks, 1 mano fragment	Not eligible	Not eligible
S-27	Fire-affected rock feature	40+ fire-affected rocks, no artifacts	Not eligible	Not eligible
S-28	Fire-affected rock feature	35+ fire-affected rocks, no artifacts	Not eligible	Not eligible
S-29	Prehistoric habitation site	6-meter diameter circular depression, groundstone, flake tools, fire-affected rocks, debitage	Eligible and Avoidable	Eligible and Avoidable

Source: CH2MHILL, 2010a; CH2MHILL, 2011i.

[1]Site did not require further evaluation.

Construction activities for Alternative A would occur in full compliance with BLM BMPs and the Section 106 process (BLM, 2011p); which directs the development of proposals to avoid, minimize, or otherwise mitigate impacts to historic properties (see Section 4.4.11). Site-29 is located on BLM property and would be subject to full compliance with the Section 106 process. Therefore, site S-29 would be protected as an Environmentally Sensitive Area (ESA) and avoided entirely and the BLM has determined that this undertaking would have no adverse effect on historic properties.

Other than S-29, the only potential for direct impacts to cultural resources during the construction phase of Alternative A is from unanticipated or inadvertent cultural resources discoveries. Due to various surface conditions or changes over time, not all cultural resources are expressed on the surface. Any project with ground disturbing components has the potential to directly impact unanticipated cultural resources. The concentration of archaeological sites in the AEWP area suggests that this potential exists

with the AEWP and that impacts would be reduced through compliance with the development of unanticipated discovery procedures as part of the Plan of Discovery process. Additionally, Mitigation Measure 4.4-1 requires that the AEWP Proponent prepare and submit a Historic Property Treatment Plan (HPTP); a portion of which would identify project-specific protocols to address any unanticipated discoveries of cultural resources.

No human remains are known to be located within the AEWP APE. However, there is always the possibility that unmarked burials may be unearthed during construction. The Plan of Discovery process, Health and Safety Code Section7050.5, CEQA Section 15064.5(e), and Public Resources Code Section 5097.98 mandate the process to be followed in the unlikely event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Additionally, Mitigation Measure 4.4-1 requires that the AEWP Proponent prepare and submit a Historic Property Treatment Plan (HPTP); a portion of which would identify project-specific protocols to address an unanticipated discovery of human remains.

Operation and Maintenance

Other than site S-29, the primary potential for direct impacts to cultural resources during the operation and maintenance phase of Alternative A is from unanticipated or inadvertent cultural resources discoveries. Because site S-29 will be avoided entirely, operation and maintenance of the AEWP would not result in a substantial adverse change in a historic resource. During operation and maintenance, the AEWP Proponent's worker training program would also reduce the risk of adverse impacts to cultural resources within the AEWP APE. Avoidance and protection of significant resources during the operation and maintenance phase of the AEWP would protect cultural resources originally avoided by construction impacts. Because operation and maintenance activities would be limited to the approved construction footprint of Alternative A (i.e., the AEWP site), no additional direct impacts to cultural resources are expected during operation and maintenance.

Decommissioning

Decommissioning of the AEWP would include the removal and disposal of turbine towers, above-ground electrical tower components, and substation components, as well as the removal of all below-ground infrastructure. A decommissioning plan would be developed consistent with the BLM Wind Energy Programmatic EIS and Record of Decision (ROD), and approved by the BLM. Because decommissioning activities are similar in nature to construction activities, the Plan of Discovery, and Mitigation Measures 4.4-1 through 4.4-4 developed for construction activities, would be applied during the decommissioning phase, including those related to the protection of cultural resources from adverse impacts. Decommissioning effects on any known or unknown historic and archaeological resources would be mitigated by ensuring identification, evaluation, avoidance, and protection of resources.

Other than site S-29, the primary potential for direct impacts to cultural resources during the decommissioning phase of Alternative A is from unanticipated or inadvertent cultural resources discoveries. The worker training program would reduce the risk of direct impacts to cultural resources within the APE, but outside the smaller construction footprint of the AEWP site. Avoidance and protection of significant resources during the decommissioning phase of the AEWP would protect cultural resources originally avoided by construction impacts. Because decommissioning activities would be limited to the approved construction footprint of Alternative A (i.e., the AEWP site), no additional direct impacts to cultural resources are expected.

4.4.4.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the project (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.4.2. Only those significance criteria which were determined in Section 4.4.2 to be relevant to the project are addressed below.

Construction

- **CR-1 (Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA Guidelines Section 15064.5).** The term, "historical resource," as defined by CEQA, indicates a cultural resource that is historically significant and eligible for listing in the CRHR. Pursuant to Section 4851 (a)(1) of the California Code of Regulations, any resource that has been listed in the NRHP is automatically eligible for the CRHR. Evaluation of the site has shown that the AEWP area contains one historic resource that is considered eligible for listing on the NRHP; and therefore it is also eligible for CRHR. Because the private and public portions of the AEWP area are intertwined, federal Section 106 coverage will apply to all portions of the AEWP, including the privately owned portions and those portions subject to BLM jurisdiction. Under this Section 106 process, the "historic resource" (Site S-29) that exists within the BLM-portion of the AEWP area will be protected as an ESA and avoided entirely. Therefore, construction of the AEWP would not result in a substantial adverse change in the significance of a historic resource. Construction activities would occur in full compliance with the BLM Best Management Practices and with all applicable standards and requirements. Additionally, Mitigation Measure 4.4-1 requires that the AEWP Proponent prepare and submit a Historic Property Treatment Plan (HPTP) which identifies project-specific protocols (including monitoring requirements) which detail how historic resources located within the AEWP area will be treated and methods to address any unanticipated discoveries of cultural resources and/or human remains. Mitigation Measure 4.4-2 requires that an archaeologist review the final site plan; Mitigation Measure 4.4-3 requires additional surveys prior to disturbance of any area within the AEWP area that has not previously been surveyed; and Mitigation Measure 4.4-4 requires that exclusionary fencing be placed around archaeological sites located within 60 feet of any AEWP related facilities and ground disturbing activities. Therefore, impacts will be less than significant.
- **CR-2 (Cause a substantial adverse change in the significance of an archaeological resource, pursuant to State CEQA Guidelines Section 15064.5).** Under the Section 106 Plan of Discovery process, construction of the AEWP would not result in a substantial adverse change in the significance of an archaeological resource. Construction activities would also occur in full compliance with all applicable standards and requirements and impacts will be less than significant.
- **CR-3 (Disturb any human remains, including those interred outside of formal cemeteries).** Under the Section 106 Plan of Discovery process, construction of the AEWP would not result in the disturbance of any human remains, including those interred outside of formal cemeteries. Construction activities would also occur in full compliance with all applicable standards and requirements and impacts will be less than significant.

Operation

- **CR-1 (Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA Guidelines Section 15064.5).** Site S-29 will be protected as an ESA and avoided entirely under the Section 106 process; operation and maintenance of the AEWP would not result in a substantial adverse change in the significance of a historic resource. Operation and maintenance activities would occur in full compliance with the BLM BMPs, Mitigation Measures 4.4-1 through 4.4-4, and with all other applicable standards and requirements; therefore, impacts will be less than significant.
- **CR-2 (Cause a substantial adverse change in the significance of an archaeological resource, pursuant to State CEQA Guidelines Section 15064.5).** With the implementation of Mitigation Measures 4.4-2 and 4.4-3, and under the Section 106 process operation and maintenance of the AEWP would not result in a substantial adverse change in the significance of an archaeological resource. Operation and maintenance activities would also occur in full compliance with all applicable standards and requirements and impacts will be less than significant.

- **CR-3 (Disturb any human remains, including those interred outside of formal cemeteries).** With the implementation of Mitigation Measures 4.4-3 and 4.4-4 and under the Section 106 process, operation and maintenance of the AEWP would not result in the disturbance of any human remains, including those interred outside of formal cemeteries. Operation and maintenance activities would also occur in full compliance with all applicable standards and requirements and impacts will be less than significant.

Decommissioning

- **CR-1 (Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA Guidelines Section 15064.5).** Site S-29 will be protected as an ESA and avoided entirely under the Section 106 process; decommissioning of the AEWP would not result in a substantial adverse change in the significance of a historic resource. Decommissioning activities would occur in full compliance with the BLM BMPs and with all applicable standards and requirements and impacts will be less than significant.
- **CR-2 (Cause a substantial adverse change in the significance of an archaeological resource, pursuant to State CEQA Guidelines Section 15064.5).** With the implementation of Mitigation Measures 4.4-2 and 4.4-3, and under the Section 106 Plan of Discovery process decommissioning of the AEWP would not result in a substantial adverse change in the significance of an archaeological resource. Decommissioning activities would also occur in full compliance with all applicable standards and requirements and impacts will be less than significant.
- **CR-3 (Disturb any human remains, including those interred outside of formal cemeteries).** With the implementation of Mitigation Measures 4.4-3 and 4.4-4, decommissioning of the AEWP would not result in the disturbance of any human remains, including those interred outside of formal cemeteries. Decommissioning activities would also occur in full compliance with all applicable standards and requirements and impacts will be less than significant.

4.4.5 Alternative B: Revised Site Layout

Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting access roads. All other features associated with Alternative B would remain unchanged compared to that discussed above for Alternative A. Alternative B contains 106 WTGs generating 318 MWs. When compared to the features of Alternative A, Alternative B would slightly increase the total acreage of both temporary and permanent disturbance. Specific land disturbance would decrease the overall amount of access roads, but would increase the amount of underground electric infrastructure.

4.4.5.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for Alternative B is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Both direct and indirect construction impacts for Alternative B are similar to Alternative A, the proposed AEWP. There is a slight increase in the potential for unanticipated discoveries of cultural resources on Alternative B relative to the slight increase in the total acreage of both temporary and permanent disturbance during construction compared to the proposed AEWP.

Operation and Maintenance

Both direct and indirect operation and maintenance impacts for Alternative B are similar to Alternative A, the proposed AEWP. There is a slight increase in the potential for unanticipated discoveries of cultural

resources on Alternative B relative to the slight increase in the total acreage of both temporary and permanent disturbance during operation and maintenance compared to the proposed AEWP.

Decommissioning

Both direct and indirect decommissioning impacts for Alternative B are similar to Alternative A, the proposed AEWP. There is a slight increase in the potential for unanticipated discoveries of cultural resources on Alternative B relative to the slight increase in the total acreage of both temporary and permanent disturbance during decommissioning compared to the proposed AEWP.

4.4.5.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative B would be identical to that for Alternative A as described in Section 4.4.3.2 above.

4.4.6 Alternative C: Reduced Project North

Under Alternative C, all WTGs and ancillary facilities would remain identical to that of the proposed AEWP (Alternative A). However, Alternative C would eliminate the central parcel within the AEWP boundary, which is north of SR 58. This alternative would result in a total of 97 WTGs capable of generating up to 291 MWs. The Alternative C area comprises 2,255 acres, reducing the amount of BLM lands utilized to a total of 1,704 acres.

4.4.6.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for Alternative C is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Both direct and indirect construction impacts for Alternative C are similar to Alternative A, the proposed AEWP. There is a slight reduction in the potential for unanticipated discoveries of cultural resources on Alternative C relative to the elimination of the central parcel and reduction in the total acreage of construction disturbance compared to the proposed AEWP.

Operation and Maintenance

Both direct and indirect operation and maintenance impacts for Alternative C are similar to Alternative A, the proposed AEWP. There is a slight reduction in the potential for unanticipated discoveries of cultural resources on Alternative C relative to the elimination of the central parcel and reduction in the total acreage of operation and maintenance disturbance compared to the proposed AEWP.

Decommissioning

Both direct and indirect decommissioning impacts for Alternative C are similar to Alternative A, the proposed AEWP. There is a slight reduction in the potential for unanticipated discoveries of cultural resources on Alternative C relative to the elimination of the central parcel and reduction in the total acreage of decommissioning disturbance compared to the proposed AEWP.

4.4.6.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative C would be identical to that for Alternative A as described in Section 4.4.3.2 above.

4.4.7 Alternative D: Reduced Project Southwest

Under Alternative D, all WTGs and ancillary facilities would remain identical to that of the proposed AEWP (Alternative A). Alternative D would eliminate the southwestern most parcel within the AEWP boundary to reduce the potential to impact existing and existing livestock grazing on this parcel of BLM land. The removal of this parcel and reduction in project size would avoid conflicts with grazing livestock during both construction and operational activities. This alternative would result in a total of 87 WTGs capable of generating up to 267 MWs. The Alternative D area comprises 2,022 acres, reducing the amount of BLM lands utilized to a total of 1,470 acres.

4.4.7.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for Alternative D is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Both direct and indirect construction impacts for Alternative D are similar to Alternative A, the proposed AEWP. There is a slight reduction in the potential for unanticipated discoveries of cultural resources on Alternative D relative to the elimination of the southwestern most parcel and reduction in the total acreage of construction disturbance compared to the proposed AEWP.

Operation and Maintenance

Both direct and indirect operation and maintenance impacts for Alternative D are similar to Alternative A, the proposed AEWP. There is a slight reduction in the potential for unanticipated discoveries of cultural resources on Alternative D relative to the elimination of the southwestern most parcel and reduction in the total acreage of operation and maintenance disturbance compared to the proposed AEWP.

Decommissioning

Both direct and indirect decommissioning impacts for Alternative D are similar to Alternative A, the proposed AEWP. There is a slight reduction in the potential for unanticipated discoveries of cultural resources on Alternative D relative to the elimination of the southwestern most parcel and reduction in the total acreage of decommissioning disturbance compared to the proposed AEWP.

4.4.7.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative D would be identical to that for Alternative A as described in Section 4.4.3.2 above.

4.4.8 Alternative E: No Issuance of ROW Grant and No LUP Amendment (No Action)

Under Alternative E (No Issuance of a ROW Grant and No LUP Amendment) to the AEWP, no action would occur and existing conditions relevant to cultural resources would continue. Existing conditions relevant to cultural resources would continue, but may be altered at some point in the future by construction of a potential wind energy or other development project.

4.4.8.1 Direct and Indirect Impacts

No impact associated with the AEWP would occur.

4.4.8.2 CEQA Significance and Impact Determinations, Alternative E: No Issuance of ROW Grant and No LUP Amendment (No Action)

Alternative E would not result in impacts to cultural resources.

4.4.9 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Under Alternative F (No Issuance of a ROW Grant with LUP Amendment to Identify the Area as Unsuitable for Wind Energy Development), no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to cultural resources would continue, but may be altered at some point in the future by construction of a potential project other than the AEWP.

4.4.9.1 Direct and Indirect Impacts

No impacts associated with the AEWP would occur.

4.4.9.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would not result in impacts to cultural resources. However, in the absence of the AEWP, other renewable energy projects may be constructed at the project site or elsewhere to meet State and federal mandates, and those projects could have impacts similar to those of the AEWP (Alternative A).

4.4.10 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

Under Alternative G (No Issuance of a ROW Grant with LUP Amendment to Identify the Area as Suitable for Wind Energy Development), no action would occur but the area would be available to wind power development in the future.

4.4.10.1 Direct and Indirect Impacts

No impacts associated with the AEWP would occur.

4.4.10.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

Alternative G would not result in impacts to cultural resources. However, if another wind development project were to be implemented, similar impacts to cultural resources as those described for the AEWP (Alternative A) could occur if the developer of said future development adopts similar avoidance measures in the design of the wind farm.

4.4.11 Cumulative Impacts

Cumulative impacts on cultural resources take into account the AEWP's impacts as well as those likely to occur as a result of other existing, proposed and reasonably foreseeable projects. When analyzing cumulative impacts on cultural resources, an assessment is made of the impacts on individual resources as well as the inventory of cultural resources within the cumulative impact analysis area.

4.4.11.1 Geographic Extent/Context

The regulations implementing Section 106 of the NHPA contemplate close coordination between the NEPA and NHPA processes (36 CFR §800.8), and expressly integrate consideration of cumulative concerns within the analysis of a proposed action's potential direct and indirect effects by defining "adverse effect" to include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (36 CFR §800.5(a)(1)).

The geographic scope of the cumulative effects analysis for cultural resources takes into consideration the entirety of impacts from other renewable energy projects, zone changes, and general plans within a 6-mile radius of the project site and as discussed in Section 4.1.6. This geographic scope of analysis is appropriate because the archaeological and historical resources within this radius are expected to be similar to those in the AEWP area because of their proximity; similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. Importantly, the AEWP has been designed to avoid direct effects to all significant cultural resources.

Determining the temporal scope requires estimating the length of time the effects of the proposed action will last, either individually or in combination with other anticipated effects. The temporal scope of impacts to cultural resources during the development of cumulative projects along with the AEWP would be through the end of AEWP decommissioning, because any direct or indirect effects of the Project would only occur during the life of the proposed AEWP.

4.4.11.2 Existing Cumulative Conditions

Cumulative conditions to cultural resources involve the disturbance of culturally significant resources, and alteration of the historic and cultural landscape of the area over time. In the past, cultural resources have been damaged or destroyed by development projects, resulting in the loss of potential knowledge. In more recent times, this has become less common, especially for projects undergoing environmental review under NEPA or CEQA, as laws now provide various protections for cultural resources. Development projects in the region have resulted in the damage or destruction of cultural resources, and the area has hosted various human activities in the past and certain activities, such as recreation, continue today. In recent times, the severity of impacts to previously unknown cultural resources has been reduced by implementing mitigation requiring construction monitoring, evaluation of resources discovered during monitoring, and avoidance or data recovery for significant resources.

4.4.11.3 Reasonably Foreseeable Projects

Table 4.1-1 in Section 4.1 of this document provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Many of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this EIS/EIR for the geographic area described above in Section 4.4.10.1.

Table 4.4-2 (below) provides information from published EIS and EIR documents which lists the number of historic and prehistoric cultural resources directly or indirectly affected by those projects within the geographic extent described above. These projects are in the various stages of permitting or construction.

Table 4.4-2. Cumulative Projects within the Cultural Resources Geographic Extent/Context

Project Name	Location	Project Type	Project Description	Cultural Sites
Tehachapi Renewable Transmission Project (TRTP)	Southern Kern County, Los Angeles County, and southwestern San Bernardino County	Transmission Line and substation facilities	Segments 4 through 8, as well as Segments 10 and 11 of the TRTP are transmission facilities; Segment 9 addresses the addition and upgrade of substation facilities.	135 archaeological and historic sites have been recorded within the TRTP APE
Alta Oak Creek-Mojave Wind Project	Tehachapi	Wind Energy	Wind energy development with a generating capacity of 657 MW by 248 WTGs.	Preliminary surveys identified 8 historic resources
Alta Infill Wind Project	Tehachapi	Wind Energy	Proposed generation of up to 750 MW of electricity from up to 250 WTGs. Includes a 230-kV generation-tie transmission line, an O&M facility, and laydown areas.	Preliminary surveys identified several archaeological sites and confirmed the presence of previously recorded resources
Rising Tree Wind Energy Project	Tehachapi	Wind Energy	Proposed generation of up to 234 MW of electricity from up to 78 WTGs. Includes a switch yard and substation, a 10,000 square foot O&M building, one temporary concrete batch plant, transmission lines, and an underground power collection system.	Class III survey identified 54 archaeological resources (51 prehistoric resources, 2 historical resources, 1 multi-component site)
California High-Speed Rail	Los Angeles to San Francisco, crossing the Tehachapi Wind Resource Area	Railroad	High-speed rail line with 800 miles of track. Portion crossing the Tehachapi Wind Resource Area is an 85-mile line from Bakersfield to Palmdale.	Initial record searches identified more than 20 archaeological resources within this segment; surveys pending.

4.4.11.4 Construction

The AEWP has been designed to avoid known significant cultural resources. Therefore, the AEWP is not expected to contribute to direct impacts on cultural resources. The exception is the potential for unanticipated or inadvertent cultural resources discoveries during the construction phase of the AEWP. If any unanticipated resources are encountered during construction mitigation measures, as listed in Section 4.4.11 of this document, to reduce impacts to these resources would be implemented. Construction of other projects located in the geographic area for the cumulative analysis (described in Section 4.4.10.1, above) could also result in damage to previously unknown resources encountered during construction.

The AEWP would avoid all known significant cultural resources and impacts that may occur related to unanticipated or inadvertent cultural resources discoveries would be mitigated. No cumulative loss or displacement of known cultural resources resulting from the construction of the AEWP and the projects located within the same geographic context is expected, due to avoidance of known significant resources and implementation of the Plan of Discovery process and mitigation measures, including worker training. Individually and cumulatively, the cultural resources surveys and data collection performed for the AEWP and other projects in the cumulative analysis area contribute to scientific knowledge about the prehistoric and historic uses of the area, including information about prior inhabitants and their cultures.

4.4.11.5 Operation and Maintenance

As described above, the AEWP has been designed to avoid known significant cultural resources and thus would have no direct lasting effects on those resources. In addition, with implementation of the Plan of Discovery process, adverse effects on any unknown historic and archaeological resources that could potentially be encountered during operation and maintenance activities would be mitigated by ensuring identification, evaluation, avoidance, and protection of those resources. Given these factors, the operation of the AEWP would not directly contribute to cumulative impacts on cultural resources within the geographic extent.

4.4.11.6 Decommissioning

The decommissioning of the AEWP, consistent with a BLM-approved decommissioning plan, would greatly reduce any project-related contributions to cumulative effects. In addition, it is unlikely that any unanticipated resources would be discovered during decommissioning activities, as such, all cultural resources at the site would likely have been previously identified during either construction or operation. Therefore, AEWP decommissioning would not contribute to any adverse cumulative impacts on cultural resources.

4.4.11.7 CEQA Significance and Impact Determinations

Significance conclusions for the impacts identified for each phase of Cumulative Impacts (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.4.2. Only those significance criteria which were determined in Section 4.4.2 to be relevant to the project are addressed below.

Construction

- **CR-1 (Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA Guidelines Section 15064.5).** With regard to impacts to significant cultural resources, construction of the AEWP would not contribute significantly to cumulative impacts within the region, especially considering that construction activities are required to fully comply with the Section 106 Plan of Discovery process, BLM BMPs, and with all applicable standards and requirements. While the AEWP would not impact significant known archaeological resources, there is a potential for unanticipated and previously unidentified cultural resources to be present within the AEWP area.

However, with the implementation of the Section 106 Plan of Discovery process, impacts to cultural resources during construction activities would be less than significant.

- **CR-2 (Cause a substantial adverse change in the significance of an archaeological resource, pursuant to State CEQA Guidelines Section 15064.5).** Other projects identified in Section 4.1.6 (Cumulative Scenario Approach) would be expected to have mitigation that would reduce potential impacts on archeological resources, but impacts could remain significant even after mitigation. Federally licensed projects, such as the Tehachapi Renewable Transmission Project, Alta-Oak Creek Mojave Project, and the Rising Tree Wind Energy Project, require compliance with Section 106 of the National Historic Preservation Act to consider and resolve adverse effects to significant cultural resources. Likewise, compliance with CEQA for privately owned projects would be expected to reduce impacts on archaeological resources, but impacts could remain significant. Nonetheless, because the AEWP will have no direct impacts to significant cultural resources, the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact to historic and archaeological resources and impacts would be less than significant.
- **CR-3 (Disturb any human remains, including those interred outside of formal cemeteries).** Although no human remains have been identified within the AEWP area, to date, there is potential for their discovery during project construction. However, if human remains were to be discovered during construction, the Section 106 process would ensure that the remains are treated in accordance with all State and federal laws, statutes, and regulations that govern the treatment of human remains. Additionally, implementation of Mitigation Measures 4.4-1 through 4.4-4 would further ensure that the any potential discovery of human remains is appropriately addressed. The potential impacts of the other projects identified in Section 4.1.6 (Cumulative Scenario Approach) would also be expected to be reduced by compliance with State and federal laws, statutes, and regulations. Therefore, cumulative impacts from the AEWP would be less than significant with mitigation.

Operation

- **CR-1.** Operation and maintenance of the AEWP would not directly contribute to any cumulative impacts on historic resources, as the AEWP has been designed to avoid direct impacts to all significant cultural resources identified within the AEWP APE. Operation and maintenance activities would occur in full compliance with the BLM BMPs, Mitigation Measures 4.4-1 through 4.4-4, and with all other applicable standards and requirements to help further ensure that the AEWP does not directly affect any archaeological resources; therefore, impacts will be less than significant.
- **CR-2.** With the implementation of Mitigation Measures 4.4-2 and 4.4-3, and under the Section 106 process operation and maintenance of the AEWP would not result in a substantial adverse change in the significance of an archaeological resource. Operation and maintenance activities would also occur in full compliance with all applicable standards and requirements. Therefore, the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact to historic and archaeological resources and impacts would be less than significant
- **CR-3.** Operation and maintenance of the AEWP is not expected to result in the disturbance of any human remains. The implementation of Mitigation Measures 4.4-3 and 4.4-4 and the Section 106 process would help avoid impacts associated with the disturbance of any unknown human remains that may be encountered during AEWP operation and maintenance. Operation and maintenance activities would also occur in full compliance with all applicable standards and requirements. Therefore, the proposed AEWP would not make a significant contribution to any impacts related to disturbance of human remains and impacts would be less than significant.

Decommissioning

- **CR-1.** The decommissioning of the AEWP, consistent with a BLM-approved decommissioning plan, would greatly reduce the potential for any project-related contributions to cumulative effects on historic resources. Therefore, AEWP decommissioning would not have any significant cumulative impacts on historic resources and impacts would be less than significant.
- **CR-2.** Consistent with a BLM-approved decommissioning plan, the AEWP would not result in a significant cumulative impact on historical or archaeological resources and impacts would be less than significant.
- **CR-3.** Consistent with a BLM-approved decommissioning plan, decommissioning of the AEWP would not result in the disturbance of any human remains, including those interred outside of formal cemeteries. Therefore, AEWP decommissioning would not result in a cumulative impact with regard to human remains and impacts would be less than significant.

4.4.12 Mitigation Measures

As described under Impact CR-1, in Section 4.4.3.2 above, the private and public portions of the AEWP are intertwined; therefore, federal Section 106 coverage will apply to all portions of the AEWP, including the privately owned portions and those portions subject to BLM jurisdiction. Under this Section 106 process, the one known "historic resource" (Site S-29) that exists within the AEWP area will be protected as an ESA and is expected to be avoided entirely. Additionally, the Section 106 process will include the implementation of the Plan of Discovery to address the future discovery of any currently unknown historical/archaeological resource and/or human remains. Also, the AEWP will adhere to Best Management Practices from BLM's Programmatic EIS for Wind Energy Development on BLM-Administered Lands in the Western United States (BLM, 2005). The applicable BLM BMPs are presented below.

In addition, project-specific mitigation measures have been developed to reduce and/or avoid potential cultural resources impacts associated with construction, operation, and decommissioning of the AEWP or an alternative. These project-specific mitigation measures presented below would be implemented and coordinated through the Section 106 process and the County's Mitigation Measure Monitoring Program to minimize and avoid adverse effects on cultural resources. Additionally, all activities shall comply with all applicable federal, State, and local standards and requirements.

MM 4.4-1 Prior to the issuance of grading or building permits by the County or a Notice to Proceed by the BLM, the project proponent shall submit a *Historic Property Treatment Plan (HPTP)* that details how historic resources located within the project area will be treated. The *HPTP* shall be prepared at the sole expense of the project proponent and shall be signed/stamped by an archaeologist that is registered with the Register of Professional Archaeologists (RPA). The final HPTP shall be submitted for review by the Bureau of Land Management, any consulting parties, and the Kern County Planning and Community Development Department.

The HPTP shall be organized into chapters that include the following elements:

1. A final site plan that demonstrates how the project will utilize existing roads and utility corridors to the maximum extent feasible to minimize the number and length/size of new roads, lay-down areas, and borrow areas. The site plan shall also include a separate sheet which illustrates how the project will avoid and protect identified historical resources.

2. A Subsurface and Evaluative Testing element stating that if certain ground disturbance activities cannot be located at least 60-feet from the boundaries of an archaeological site,

then subsurface testing shall be conducted. The HPTP shall describe in detail the actions to be taken and shall be reviewed and approved by the BLM and Kern County.

Should additional evaluative testing is deemed necessary; it shall be summarized in an Evaluative Testing Plan that is provided to the Kern County Planning and Community Development Department and Bureau of Land Management. The Plan shall include the following information:

a. Detailed description of testing methodology that includes a research design (from which to evaluate for National Register of Historical Resources eligibility); excavation plan with rationale for sample size and placement; and, discussion of special studies/ analyses that may be required.
b. Description of the methods for controlled hand excavation and surface collection of a representative sample of the site deposit.
c. A detailed analysis of the material recovered.
d. An assessment of cultural resource data potentials, integrity, and eligibility for listing on the California Register of Historical Resources in a regional context.
e. Preparation of a final report with recommendations for impact mitigation if necessary to be reviewed and approved by a professional archaeologist.
f. Description of the curation of all artifacts and data from testing evaluations.

Resources found to be not eligible shall not require additional mitigation; however, those sites found to be eligible may require data recovery (Phase III). The applicant/holder shall develop a site-specific data recovery plan, that identifies, standard procedures and guidelines for determining sampling intensity, and data recovery methods based on testing results. The Data Recovery Plan shall address research issues that would be investigated and shall consider the project's grading plan, utility plan, irrigation and landscaping plan, and any other plan that delineates areas of project disturbance in determining portions of a significant site that would be investigated.

3. A Sensitive Archaeological Locations Monitoring element for monitoring sensitive archaeological locations during ground-disturbing project activities shall be included in the plan which specifies the following:

   a. The project propnent will provide for a qualified archeologist to monitor earthmoving activities in areas within 60-feet of the identified eligible sites, or in areas that have been determined to have a high potential for resources.
   b. The archaeologist shall be authorized to halt construction, if necessary, in the immediate area where subsurface resources are encountered.
   c. The monitoring program shall identify the monitoring requirements for each known cultural resource present at the site.
   d. The monitor shall maintain a daily log of activities as required by the federal Environmental and Construction Compliance Program (ECCMP).

4. The Plan shall include provisions for administration of a workshop to brief all construction-related employees on historic resource procedures; and the provisions shall be developed in accordance with the federal Environmental and Construction Compliance Program (ECCMP).

5. Documentation of coordination with Native Americans. The Plan shall include detailed provisions to demonstrate that the project proponent has consulted with all interested tribes and individuals listed by the Native American Heritage Commission. Consultation shall continue throughout the course of planning and construction of the project. Additionally, the project proponent shall notify all applicable tribes of the time and duration of construction activities near culturally sensitive sites, if applicable. The purpose of this notification is to allow for the applicable tribes, at their sole expense, to arrange for a tribe representative, and/or cultural monitor, to be present on site to observe earth-moving activities. The project proponent shall also consult with the applicable tribes regarding site treatment during construction. The plan shall include provisions for full documentation of the consultation process, including records of all contacts and meetings.

6. The Plan shall state that archaeological collections, final reports, field notes, and other standard documentation collected during project implementation shall be permanently curated at a facility that meets Guidelines for the Curation of Archeological Collections (California Department of Parks and Recreation 1993).

7. The Plan shall identify an Unanticipated Discovery Protocol for recording and treating human remains or other potentially significant cultural resources that are discovered during construction and/or operation activities. This Protocol shall be developed in accordance with applicable laws, regulations and guidelines and shall state that in-place preservation and protection from further disturbance is preferred.

MM 4.4-2 Prior to issuance of grading or building permits by the County or a Notice to Proceed by the BLM, the project proponent shall provide the BLM and Kern County Planning and Community Development Department with documentation that an archaeologist that is registered with the Register of Professional Archaeologists (RPA) has reviewed the final site plan and has concluded that:

1. All grading, building and construction plans have been prepared in a manner consistent with professional standards; that all cultural resource investigations were documented in high quality technical reports that meet professional standards; and that reports shall be made available to professional archaeologists and (without confidential site location information) to the interested public.

2. All facilities and planned ground-disturbing activities would occur within areas that have been intensively surveyed and documented; and,

3. Provisions have been made for avoiding and protecting any sites that are eligible or potentially eligible for the National Register of Historical Resources and that the plan has used avoidance of cultural resources sites as the preferred treatment measure in project design. Also, that the project has, to the greatest extent possible, avoided siting of wind turbine generators and support facilities within 60-feet of culturally sensitive sites.

MM 4.4-3 Prior to ground-disturbing activities that affect any portion of the project area that is beyond the area previously surveyed, the project proponent shall adhere to the following:

1. No work shall be conducted in those areas until approval has been received from the BLM and Kern County Planning and Community Development Department;

2. Provide for a qualified archaeologist to conduct an initial Phase I evaluation (records search and intensive pedestrian surveys) of all new areas that would be affected (i.e., within the revised area of impact);

3. Provide a supplemental technical report to the BLM and Kern County Planning and Community Development Department discussing the supplemental Phase I evaluation and description of any eligible sites;

4. Based on the results of the supplemental Phase I evaluation, ensure that the qualified archeologist provides documentation to the BLM and Kern County Planning and Community Development Department verifying that all newly identified sites would be avoided and that all ground-disturbing activities would occur at least 60-feet away;

5. If the revised location of facilities avoids newly identified sites but ground-disturbing activities are located within 60 feet of the sites, provide for a qualified archeologist to monitor during initial ground-disturbing activities, as well as exclusionary fencing; and,

6. If the revised location of facilities impacts newly identified sites (e.g., sites could not be avoided), consult with the BLM and Kern County Planning and Community Development Department regarding further requirements, possibly including a Phase II evaluation, data recovery, and additional mitigation.

MM 4.4-4 Prior to the issuance of grading or building permits by the County or a Notice to Proceed by the BLM, the project proponent shall submit verification to the BLM and Kern County Planning and Community Development Department which demonstrates that exclusion fencing has been installed around the archaeological sites that are located within 60-feet of project facilities and planned ground-disturbing activities.

BLM Best Management Practices

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.
- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.
- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the AEWP, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).
- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the National Register of Historic Places (NRHP).

- When any ROW application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the AEWP and identify appropriate mitigation measures for inclusion as stipulations in the POD.
- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.
- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

4.4.13 Residual Impacts After Mitigation

The AEWP has been designed to avoid direct impacts to all known resources eligible for the National Register. However, the potential remains for impacts to unknown resources that may be discovered at the proposed AEWP site during construction. Implementation of the Section 106 process and BMPs will minimize the potential for adverse impacts to previously unknown resources. Therefore, unless human remains are found during AEWP development, project impacts to cultural resources, after mitigation would be less than significant.

4.5 Environmental Justice

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on environmental justice. The applicable environmental and regulatory settings are discussed in Section 3.5 of this Final EIS/EIR.

4.5.1 Methodology for Analysis

This analysis examines the percentages of minority and low-income populations from both a regional and local (site-radius) level. For purposes of consistency and in compliance with U.S. BLM guidelines, U.S. Census data are used to determine minority and low-income population percentages in the affected one-hour commute area. These data are presented in Section 3.5 of this Final EIS/EIR.

The "affected area" for determining environmental justice impacts for the AEWP includes a one-hour commute area. To represent this area, environmental justice setting data is presented at a local, regional, and countywide level. The local level is intended to represent the geographic extent of AEWP site specific environmental impacts on proximate and adjacent sensitive receptors. The AEWP site itself, as well as the surrounding area, are all contained within one US Census Tract. The AEWP site is located within Census Tract 60.05 in Kern County (U.S. Census, 2010). Due to the rural location of the AEWP site, this census tract is quite large consisting of approximately 200 square miles (U.S. Census, 2010). Therefore, by evaluating the "affected area" at 200 square miles for environmental justice, the analysis will focus on the smallest geographic area where 2010 US Census data is available and can be applied to assessing AEWP impacts specific to the populations within the vicinity of the AEWP rather than the region as a whole.

For comparative purposes and to evaluate population demographics of those receptors potentially impacted by more regional-wide impacts, the Bakersfield Census County Division (CCD) has been evaluated. Census county divisions (CCDs) are geographic statistical subdivisions of counties established cooperatively by the Census Bureau and officials of state and local governments in states where minor civil divisions (MCDs) either do not exist or are unsatisfactory for census purposes. Therefore, the Bakersfield CCD includes a number of small rural communities within a one-hour commute of the AEWP area. In addition to the Bakersfield CCD, the two other major communities within a one-hour commute distance are determined to be the cities of Lancaster and Palmdale based on the workforce and commute trip distribution provided in sections 4.13 and 4.16, respectively. These communities are included within the North Antelope Valley CCD. Furthermore, the North Antelope Valley CCD contains a number of other small communities within the Antelope Valley (including the Mojave Desert area) within a one-hour commute of the AEWP site.

Additionally, for comparative purposes to both the localized and regional study areas, environmental justice demographic data is also provided for Kern County as a whole. While the cities of Lancaster and Palmdale, as well as other local communities within the northern Antelope Valley are located within Los Angeles County, due to the distance of the remaining portions of Los Angeles County from the AEWP site, presenting data for Los Angeles County as a whole would not provide basis for comparison.

The environmental justice analysis presented in Section 4.5 evaluates both the adverse and beneficial impacts of the AEWP to identified environmental justice demographic populations.

If the jurisdiction has a population of 50 percent or greater for either the low-income or minority categories, it is identified for more detailed analysis. Similarly, if the jurisdiction has a population meaningfully greater (50 percent or greater) than the minority or low-income population percentage in the general population of the regional area, it is identified for more detailed analysis. Identification of an area that is potentially affected by the AEWP and contains a disproportionate amount of low-income or minority residents does not, by itself, constitute an environmental justice impact. An environmental justice impact would occur if the AEWP disproportionately affects a population that is made up of 50 percent or greater for either the low-income or minority categories. Where presented, mitigation measures and BMPs are presented in each section to ensure that impacts associated with construction and operation of the AEWP or its alternatives are minimized or avoided.

4.5.2 CEQA Thresholds of Significance and Criteria

CEQA does not does not require the analysis of environmental justice impacts and so does not provide specific significance criteria for environmental justice impacts. Consequently, no CEQA significance determinations have been made for the analysis of environmental justice impacts below.

4.5.3 Alternative A: Project

4.5.3.1 Direct and Indirect Impacts

As shown in Table 3.5-1, Census Tract 60.05 in Kern County has a minority population of less than 50 percent (11.5 percent), the Bakersfield CCD has a minority population of less than 50 percent (42.0 percent), the North Antelope Valley CCD has a minority population of less than 50 percent (42.7 percent), and Kern County as a whole has a minority population of less than 50 percent (35.4 percent). As such, no disproportionate impacts to minority populations would occur at a localized, regional (one-hour), or county-wide level from Alternative A. Consequently, no minority populations would be disproportionately affected by activities associated with construction, operation and maintenance, or decommissioning of Alternative A.

With regard to low-income populations, as shown in Table 3.5-1, Census Tract 60.05 in Kern County has a low-income population of less than 50 percent (9.1 percent), the Bakersfield CCD has a low-income population of less than 50 percent (21.8 percent), the North Antelope Valley CCD has a low-income population of less than 50 percent (20.0 percent), and Kern County as a whole has a low-income population of less than 50 percent (19.4 percent). As such, no disproportionate impacts to low-income populations would occur at a localized, regional (one-hour), or county-wide level from Alternative A. Consequently, no low-income populations would be disproportionately affected by activities associated with construction, operation and maintenance, or decommissioning of Alternative A.

Beneficial impacts would occur to populations within the localized, regional (one-hour), and county-wide areas from direct and indirect employment, employment income, and increased tax base of the County. Additional discussion of beneficial impacts of Alternative A is provided in Section 4.13, Social and Economic Effects.

4.5.4 Alternative B: Revised Site Layout

4.5.4.1 Direct and Indirect Impacts

Alternative B would have identical site boundaries as Alternative A. Therefore, the localized and regional demographic areas presented in Table 3.5-1 for Alternative A would be applicable to Alternative B. Consequently, the same localized, regional (one-hour), and county-wide areas would be affected by Alternative B at a localized level and populations in both the Bakersfield and North Antelope Valley CCD's and Kern County would represent the affected population at a regional level. As such (as analyzed in Section 4.5.3.1), no populations with a large minority percentage or low-income percentage of greater than 50 percent could be could be disproportionately and adversely affected at either a localized or regional level by Alternative B. Consequently, no disproportionate impacts to minority populations or low-income populations would occur as a result of activities associated with construction, operation and maintenance, or decommissioning of Alternative B.

4.5.5 Alternative C: Reduced Project North

4.5.5.1 Direct and Indirect Impacts

Alternative C would remove a portion of the Alternative A boundary north of State Route 58 (Parcel 28). While removing this parcel would reduce the overall size and boundary of the site, Alternative C would still have identical localized (Census Tract 60.05) and regional (Bakersfield CCD, North Antelope Valley CCD, and Kern County) demographic boundaries with respect to environmental justice. Consequently, the same localized, regional (one-hour), and county-wide areas would be affected by Alternative C. As such (as analyzed in Section 4.5.3.1), no populations with a large minority percentage or low-income percentage of greater than 50 percent could be could be disproportionately and adversely affected at either a localized or regional level by Alternative C. Consequently, no disproportionate impacts to minority populations or low-income populations would occur as a result of activities associated with construction, operation and maintenance, or decommissioning of Alternative C

4.5.6 Alternative D: Reduced Project Southwest

4.5.6.1 Direct and Indirect Impacts

Alternative D would remove a portion of the Alternative A southwest boundary (Parcel 34). While removing this parcel would reduce the overall size and boundary of the site, Alternative D would still have identical localized (Census Tract 60.05) and regional (Bakersfield CCD, North Antelope Valley CCD, and Kern County) demographic boundaries with respect to environmental justice. Consequently, the same localized, regional (one-hour), and county-wide areas would be affected by Alternative C. As such (and analyzed in Section 4.5.3.1), no populations with a large minority percentage or low-income percentage of greater than 50 percent could be could be disproportionately and adversely affected at either a localized or regional level by Alternative D. Consequently, no disproportionate impacts to minority populations or low-income populations would occur as a result of activities associated with construction, operation and maintenance, or decommissioning of Alternative D.

4.5.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.5.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and would not amend the California Desert Conservation Area (CDCA) Plan. As a result, no wind energy project would be constructed, and the BLM and Kern County would continue to manage the site lands under their jurisdiction consistent with the existing land use designation in the CDCA Plan (as amended) and Kern County General Plan and Zoning Code. No action would occur and existing conditions relevant to environmental justice would continue. No impacts associated with the AEWP or alternatives would occur. The land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan and Kern County regulations, including another renewable energy project. If the AEWP or an alternative is not approved, renewable energy projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/Federal mandates.

4.5.8 Alternative F: No No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.5.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and BLM would amend the CDCA Plan to make the BLM portions of the site unavailable for future wind energy development. As a result, no wind energy project would likely be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Land Use Plan of 1980, as amended. No action would occur and no future development of the BLM portion of the AEWP site for wind energy would occur. Existing conditions relevant to environmental justice would continue, but may be altered at some point in the future by construction of a project other than proposed wind energy development.

4.5.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.5.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and BLM would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site. No action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP would occur. In the future, if another wind development project is implemented conditions relevant to environmental justice would be similar to those described for AEWP.

4.5.10 Cumulative Impacts

4.5.10.1 Geographic Extent/Context

As described in Section 3.5, the affected area for AEWP-specific environmental justice impacts would be population within one mile of the AEWP or its alternatives to identify localized impacts. Therefore, cumulative development within one mile of the AEWP site has the potential to combine with the AEWP to disproportionately affect minority and low-income populations. Additionally, the AEWP or its alternatives could combine with impacts of other projects from a regional level to overlap with the affected regional area of the AEWP. As any environmental justice impacts generated by the AEWP would be limited to occurring within the lifespan of the AEWP, cumulative environmental justice impacts would also occur only during the lifespan of the AEWP. As discussed in Section 4.13 (Social and Economic Issues), while a number of projects identified in Table 4.1-1 are located in northern Los Angeles County, these projects are expected to be proximate enough to the Los Angeles metropolitan area to draw upon the large labor force of that area. This potential cumulative socioeconomic impact is considered to be the most far-reaching geographic impact of the AEWP. However, as discussed in Section 3.13 (Social and Economic Effects), workers are expected to come from within a one-hour commute area for the AEWP. Based on the assumption that the workforce for these Los Angeles based cumulative projects would come from Los Angeles County and likely not combine with the socioeconomic impacts of the AEWP, cumulative projects located in northern Los Angeles County as identified in Table 4.1-1 are not considered to have the potential to combine cumulatively with the AEWP. Therefore, the geographic extent of the AEWP from a regional perspective for consideration of cumulative environmental justice impacts would be Kern County.

4.5.10.2 Existing Cumulative Conditions

This section discusses the past projects that have occurred in the cumulative analysis area described above, in addition to ongoing projects in the area. As the cumulative analysis area for environmental justice impacts is both localized (census tract containing the AEWP) and regional (Bakersfield CCD, North Antelope Valley CCD, and Kern County), past and present development contributing to the cumulative conditions for environmental justice in the cumulative analysis area would be the larger of the two (i.e., development in the cities and communities of Kern County). As described in Section 3.5 and above, the minority and low-income populations within this affected area would be less than 50 percent at both a localized and regional level.

4.5.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, projects located on BLM lands, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider to be reasonably foreseeable. As discussed above in Section 4.5.10.1, the cumulative projects relevant to the geographic extent of this cumulative analysis of environmental justice impacts associated with the AEWP would be those located within Kern County as identified in Table 4.1-1. Many of the projects presented in Table 4.1-1 and considered part of the baseline conditions have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental

review has not yet been completed for projects determined to be located within the geographic extent of this cumulative analysis, the potential effects of all projects comprising the existing and reasonably foreseeable cumulative conditions relevant to the AEWP were considered in the cumulative impacts analyses in this Final EIS/EIR.

4.5.10.4 Construction, Operation and Maintenance, Decommissioning

While the projects identified within Table 4.1-1 could result in significant unavoidable adverse impacts, those located within a localized level of the AEWP would also be located within Census Tract 60.05. As presented in Table 3.5-1 and discussed above in Section 4.5.3.1, Census Tract 60.05 in Kern County has a minority population of less than 50 percent (11.5 percent), the Bakersfield CCD has a minority population of less than 50 percent (42.0 percent), the North Antelope Valley CCD has a minority population of less than 50 percent (42.7 percent), and Kern County as a whole has a minority population of less than 50 percent (35.4 percent). Furthermore, Census Tract 60.05 in Kern County has a low-income population of less than 50 percent (9.1 percent), the Bakersfield CCD has a low-income population of less than 50 percent (21.8 percent), the North Antelope Valley CCD has a low-income population of less than 50 percent (20.0 percent), and Kern County as a whole has a low-income population of less than 50 percent (19.4 percent). Therefore, the Alta East Wind Project would not contribute with other local, regional (one-hour commute) and Kern County cumulative projects identified in Table 4.1-1 to disproportionate impacts at a localized level as no disproportionate minority or low-income populations exist.

Impacts associated with construction, operation and maintenance, or decommissioning of the AEWP would not result in disproportionate adverse effects on minority or low-income populations and the AEWP and alternatives will not contribute to cumulative impacts.

4.5.11 Mitigation Measures

Given the absence of environmental justice impacts, no mitigation measures are required.

4.5.12 Residual Impacts After Mitigation

No unavoidable adverse impacts related to environmental justice would occur.

4.6 Lands and Realty

This section of the Proposed Plan Amendment (PA), Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) addresses potential impacts of the Alta East Wind AEWP (AEWP) associated with lands and realty. Mitigation measures that would reduce impacts are also discussed. The applicable environmental and regulatory settings are discussed in Chapter 3.6.

4.6.1 Methodology for Analysis

Potential land and realty effects may occur from conflicts with existing or authorized land uses or inconsistencies with applicable land use plans, policies, or regulations. The following impact analysis begins with an overview of the AEWP's consistency with applicable plans and policies, which includes an analysis of the AEWP's consistency with the BLM's CDCA Plan Multiple-Use Class (MUC) Guidelines. In addition, Table 4.6-2 (at the end of this section) includes a consistency analysis of all applicable local land use regulations, ordinances, and policies. Impacts associated with other existing land use activities are also discussed in separate sections of Chapters 3 and 4, and are as follows: Livestock Grazing (Section 3.7 and 4.7); Recreation (Sections 3.12 and 4.12); and Wild Horses and Burros (Section 3.22).

4.6.2 CEQA Thresholds of Significance and Criteria

The significance criteria listed below were used to determine if the AEWP would result in impacts to land use and planning related issues, and were derived from the Kern County CEQA Implementation Document and Kern County Environmental Checklist, which states that a project would normally be considered to have a significant impact if it would:

LA-1 Physically divide an established community;

LA-2 Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or,

LA-3 Conflict with any applicable habitat conservation plan or natural community conservation plan.

Of these criteria, the following was determined to be inapplicable or to result in no impact under CEQA under all alternatives and, therefore, this criterion was not discussed further in this section:

- LA-1: The AEWP would be three miles northwest of the unincorporated Community of Mojave, and 11 miles east of the City of Tehachapi. The property boundary of the closest residential sensitive receptor is located over 1,000 feet east of the northern portion of the AEWP site. Therefore, the AEWP would not physically divide an established community.

4.6.3 Alternative A: Project

The following provides consistency determinations for land use plans, policies, and regulations that are applicable to the AEWP:

Federal Land Policy and Management Act (FLPMA) of 1976

The FLPMA provides the authority to issue a right-of-way (ROW) authorization to construct, operate, maintain, and decommission a wind energy project, including a substation; administration, operations and maintenance facilities; transmission lines; and temporary construction lay down areas. Therefore, elec-

trical generation facilities are an allowable land use under FLPMA, and with issuance of the ROW grant from the BLM, the AEWP would be in compliance with the FLPMA.

California Desert Conservation Area Plan

The majority of the AEWP site is within the boundaries of the BLM's MUC designations under the CDCA Plan. The MUC designations applicable to the AEWP site include Class M, Class L, and Unclassified lands (refer to Table 3.6-1 in Section 3.6 and Figure 2-4 in Appendix A).

The MUC designations guide the type and degree of land use allowed within the classification area. Class M allows for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class L allows for low to moderate recreation activities, including non-competitive vehicle touring and events on approved routes of travel. Wind energy development is also an allowable use of Class L lands after NEPA requirements are met; and the Unclassified designation consist of scattered and isolated parcels of public land in the CDCA that have not been placed within multiple-use classes. This Proposed PA, Final EIS/EIR will act as the mechanism for complying with these MUC requirements.

All land use actions and resource management activities on BLM-administered lands within a MUC designation must meet the guidelines for that class. These guidelines are listed on Table 1, MUC Guidelines, of the CDCA Plan (page 15). Both Class M and Class L allow wind energy generation facilities after NEPA requirements are met. The following is a consistency analysis of the AEWP for each land use activity:

1. Agriculture: Agricultural uses of Class M and Class L lands are not allowed, with the exception of livestock grazing. The AEWP would not involve use of the site for agriculture, but implementation of the AEWP would preclude existing onsite grazing within the Warren and Hansen Common Allotments. Refer to Section 4.7 (Livestock Grazing) for an impact analysis.
2. Air Quality: Class M and Class L lands are to be managed to protect air quality and visibility in accordance with Class II objectives of Part C of the Clean Air Act as amended. The anticipated maximum daily and annual construction emissions that would be associated with the AEWP are provided in Table 4.2-3 of Section 4.2 (Air Resources). The analysis indicates, with the exception of NOx and PM10 impacts during construction, that the proposed AEWP would not create new exceedances or contribute to existing exceedances for any of the criteria air pollutants. Maximum annual construction emissions would not exceed any of the applicable general conformity *de minimis* thresholds. The maximum daily and annual operation emissions that would be associated with the AEWP are provided in Table 4.2-4. Annual operation emissions are anticipated to be well under the general conformity *de minimis* thresholds. The magnitude of the impacts of decommissioning emissions are expected to be significantly less than those estimated for project construction since decommissioning would occur after at least 30 years of operation, and it is expected that equipment engine technology would be far more advanced and cleaner than is currently the case. Therefore, the AEWP would conform to the Class II objectives referenced in the CDCA Plan guidelines.
3. Water Quality: Class M lands are to be managed to minimize degradation of water resources; and Class L lands are to be managed to provide for the protection and enhancement of surface and groundwater resources, except for instances of short-term degradation caused by water development projects. For both Class M and Class L, Best Management Practices (BMPs) developed by the BLM during the planning process outlined in the Clean Water Act (CWA) Section 208 will be used to avoid degradation and to comply with Executive Order 12088. The CWA Section 208 and Executive Order 12088 both address federal compliance with pollution control standards. The BLM's Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States established programmatic BMPs for wind development on BLM lands in western states, including California. These BMPs are listed in Section 4.19 (Water Resources) of this Proposed PA,

Final EIS/EIR and would be implemented as part of the AEWP. With implementation of the BLM's programmatic BMPs for wind development, as well as mitigation measures developed for the AEWP (as presented in Section 4.19.11), impacts to water resources and water quality would be minimal, and the AEWP would conform to the guidelines for Class M and Class L lands presented in Table 1 of the CDCA Plan.

4. Cultural and Paleontological Resources: Cultural and paleontological resources will be preserved and protected. Procedures described in 36 CFR 800 will be observed where applicable. As described in detail in Sections 4.4 and 4.10, impacts on cultural and paleontological resources resulting from the development and operation of the AEWP would be mitigated through project-specific mitigation measures, as well as BMPs. In addition, adverse effects on cultural resources listed on or determined eligible for the National Register of Historic Places will be resolved in accordance with a Memorandum of Agreement being prepared for the AEWP in consultation with the California State Historic Preservation Officer, Native American tribes, and other interested parties in accordance with Section 106 of the NHPA. As such, the AEWP site locations are within the MUC Guidelines for cultural and paleontological resource protection established by the CDCA Plan.

5. Native American Values: Native American cultural and religious values will be protected and preserved with appropriate Native American groups consulted. Consultation with Native American tribes was initiated during project planning and will continue during the NEPA process; refer to Chapter 5.2 for the details regarding the consultation processes. Opportunities have been provided to allow Native American tribes to identify places and resources of importance to them and to express concerns regarding cultural and religious values that could be impacted by the AEWP.

   Adverse effects on any places of traditional cultural or religious importance that are identified by tribes will be resolved in accordance with the Memorandum of Agreement being developed for the AEWP with tribal participation. Potential impacts to and protection of cultural resources are discussed in more detail in Section 4.4, which also includes requirements set forth by the BLM's BMPs and project-specific mitigation measures. Collectively, these measures ensure that preservation and protection of Native American cultural and religious values associated with cultural resources is accomplished in accordance with the CDCA Plan MUC Guidelines.

6. Electrical Generation Facilities: Wind generation may be allowed on Class M and Class L lands after NEPA requirements are met. This Proposed PA, Final EIS/EIR will act as the mechanism for complying with those NEPA requirements.

7. Transmission Facilities: The portion of the proposed transmission line on BLM land is 0.9 mile within Class M and within the AEWP boundary. New gas, electric, and water transmission facilities and cable for interstate communication may be allowed only within designated corridors, and NEPA requirements must be met. This Proposed PA, Final EIS/EIR will act as the mechanism for complying with those NEPA requirements.

7a. Distribution Facilities: New distribution facilities may be allowed on Class M and Class L lands after NEPA requirements are met; however, the AEWP would not include installation of distribution facilities.

8. Communication Sites: Communication sites may be allowed on Class L lands after NEPA requirements are met; however, the AEWP would not involve installation of communications sites.

9. Fire Management: Fire suppression measures in Class M and Class L areas will be taken in accordance with specific fire management plans, subject to such conditions as the authorized officer deems necessary. The AEWP site is designated both a federal responsibility area (under the jurisdiction of BLM) and State responsibility area (under the jurisdiction of Cal Fire), and designated a moderate Fire Hazard Severity Zone (FHSZ). The Project Proponent has developed fire suppression measures that would be used for the AEWP, and these measures are discussed in Section 4.20. In addition,

proposed mitigation requires the following from the Project Proponent: submit a Fire Safety Plan for use during construction and decommissioning; install an automatic fire extinguishing system that complies with international standards; and ensure that facility, accessory, and/or process modifications conform to Kern County Fire Department regulations and standards. With implementation of these measures, fire management would conform to the guideline for Class M and Class L.

10. Vegetation: Table 1 of the CDCA Plan includes a variety of guidelines associated with vegetation as follows:

Vegetation Harvesting

- Native Plants – Commercial or non-commercial removal of native plants in Class M and Class L areas may be allowed only by permit after NEPA requirements are met, and after development of necessary stipulation. Approval of a right-of-way (ROW) grant for the AEWP would constitute the permit for such removal. The BMPs in the Proposed PA, Final EIS/EIR and conditions of approval that would be required in a Record of Decision would constitute the stipulations to avoid or minimize impacts from removal of native plants.
- Harvesting by mechanical means – Harvesting by mechanical means may be allowed by permit only. Although the AEWP may include the collection of seeds to assist with reclamation, the removal of these items would not be done for distribution to the public. Also, the guidelines for vegetation harvesting include encouragement of such harvesting in areas where the vegetation would be destroyed by other actions, which would be the case with the AEWP. Therefore, the AEWP would be in conformance with this MUC guideline.

  Rare, Threatened, and Endangered Species, State and Federal – In all MUC areas, State and federally listed species will be fully protected. In addition, actions which may jeopardize the continued existence of federally listed species will require consultation with the U.S. Fish and Wildlife Service. As evaluated in Section 4.17, there is currently some scientific disagreement about the proper taxonomic characteristics that should be applied to identify the federal and State endangered Bakersfield cactus (*O. basilaris* var. *treleasei*), as opposed to the closely related variety, beavertail cactus (*O. b*. var. *basilaris*). Using identification criteria offered recently by CDFG, the listed species is very common on the AEWP site. However, using the keys and descriptions published in standard floras, there are few individuals of the listed species on site.

  The AEWP would not directly impact any individual Bakersfield cactus meeting the federal definition of the listed taxon. Eight (8) such plants were identified in the AEWP area during 2010 and 2011 rare plant surveys, and all would be avoided by the AEWP. However, a total of 112 individuals of Bakersfield cactus meeting the 2011 CDFG guidelines were mapped within the AEWP survey area in 2011, and 363 Bakersfield cactus were mapped throughout the AEWP site in 2010. All of the *O. basilaris* plants classified under the 2011 CDFG guidelines as Bakersfield cactus occur in the hills in the northern portion of the AEWP area. It is likely that some of these individuals would be directly impacted by the AEWP, but the exact number of affected individuals cannot be calculated at this time pending final engineering.

  Implementation of the avoidance, minimization, and mitigation measures described in Section 4.17.11 would mitigate the direct and indirect impacts to vegetation resources, including permanent and temporary impacts to vegetation communities, special-status plant species, and state jurisdictional areas on the AEWP site.

  Sensitive Plant Species – Identified sensitive plant species would be given protection in management decisions consistent with BLM's policy for sensitive species management, BLM Manual 6840. The objective of this policy is to conserve and/or recover listed species, and to initiate conservation measures to reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing. The AEWP could result in impacts to individuals or populations of three (3) special-status

plant species documented within the rare plant survey area: Bakersfield cactus, pale-yellow layia, and adobe yampah.

Impacts and mitigation associated with these species were discussed in Section 4.17. Implementation of the avoidance, minimization, and mitigation measures described in Section 4.17.11 would mitigate the direct and indirect impacts to vegetation resources, including permanent and temporary impacts to vegetation communities, special-status plant species, and state jurisdictional areas on the AEWP site. Because these measures are intended to reduce threats to these species to minimize the likelihood of listing, these measures are in conformance with the MUC guidance in the CDCA Plan.

Unusual Plant Assemblages (UPAs) – No UPAs have been identified on the proposed AEWP site.

Vegetation Manipulation

Vegetation manipulation is defined in the CDCA Plan as removing noxious or poisonous plants from rangelands; increasing forage production; creating open areas within dense brush communities to favor certain wildlife species; or eliminating introduced plant species.

- Mechanical Control – Mechanical control of vegetation is not allowed on Class L lands, but may be allowed on Class M lands after consideration of possible impacts. As required by mitigation in Section 4.17 (Vegetation Resources), the Project Proponent would prepare and implement an Integrated Weed Management Plan, which shall be developed in cooperation with the BLM and shall include a risk assessment of the invasive weed species currently known within the AEWP site, procedures to control their spread on site and to adjacent off-site areas, and procedures to help minimize the introduction of new weed species. The Integrated Weed Management Plan shall be submitted to the BLM and the County for review and approval prior to the start of construction and shall be implemented prior to, during, and following the completion of construction for the life of the AEWP. With implementation of the this plan, mechanical vegetation control on Class L lands would not be allowed and potential impacts to Class M lands would be mitigated to minimize impacts associated with weed control.
- Chemical Control – Aerial broadcasting application of chemical controls would not be allowed on all MUC lands, noxious weed eradication may be allowed after site-specific planning on Class L lands, and spot application would be allowed after site-specific plans on Class M lands. The AEWP would not include aerial broadcasting; and if chemical treatment is applied, it would be consistent with BLM's Record of Decision (ROD): Vegetation Treatments Using Herbicides (BLM 2007a), as supported by the Programmatic Environmental Impact Statement (PEIS) for Vegetation Treatments Using Herbicides (BLM 2007b). Any weed eradication would be subject to the Weed Management Plan that would be developed in consultation with the BLM to ensure compliance with the MUC guidelines.
- Exclosures – Exclosures may be allowed on MUC lands. Exclosure is a manipulation technique where livestock and certain wildlife species can be excluded from fenced areas, which provides comparison data and is valuable in the determination of grazing effects of vegetation. The AEWP would not include exclosures.
- Prescribed Burning – Prescribe burning may be allowed on Class M and Class L lands after development of a site-specific management plan. The AEWP would not include prescribed burning.

11. Land Tenure Adjustment: Class M and Unclassified land may be sold in accordance with FLPMA and other applicable Federal laws and regulations. Class L land may be sold after first changing their classification through the plan amendment process. The AEWP would not involve the sale of BLM-administered lands.
12. Livestock Grazing: Livestock grazing is allowed on Class M and Class L lands subject to the protection of sensitive resources. Implementation of the AEWP would not involve livestock grazing; however, the AEWP would preclude existing on-site grazing within the Warren Rangeland Allotment. Refer to Section 4.7 (Livestock Grazing) for an impact analysis.

13. Mineral Exploration and Development: Mining is allowed on Class M and Class L lands in accordance with FLPMA and other applicable Federal laws and regulations; however, the AEWP would not involve the development of minerals on Class M or Class L lands.

14. Motorized Vehicle Access/Transportation: Pursuant to the CDCA MUC guidelines for Class M and Class L areas, new roads and ways may be developed under ROW grants or approved plans of operation, and periodic or seasonal closures or limitations of routes of travel may be required. The AEWP would not include new OHV designations; however, construction of the AEWP would result in temporary and possibly permanent closures or limitations to the OHV roads on the AEWP site. However, as part of the ROW grant, the BLM may require measures to maintain public access to the onsite routes, and implementation of 4.12-1 would minimize impacts to recreation areas during the construction period.

15. Recreation: Class M lands are available for a wide range of recreation activities, and Class L lands are available for low to moderate user densities. However, the AEWP would not involve the development or use of the AEWP site for recreational activities.

16. Waste Disposal: Where locations available for waste disposal are found on Class M lands, consideration will be given to transfer such sites to other ownership for this use. Hazardous and new non-hazardous waste disposal is not allowed on Class L lands. Nonetheless, the AEWP would not involve the development of waste disposal sites.

17. Wildlife Species and Habitat: Table 1 of the CDCA Plan includes a variety of guidelines associated with wildlife as follows:

    Rare, Threatened, and Endangered Species, State and Federal – In all MUC areas, all State and federally listed species and their critical habitat will be fully protected. In addition, actions which may jeopardize the continued existence of federally listed species will require consultation with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act. As evaluated in Section 4.21, Wildlife Resources, the desert tortoise and California condor are the only federally listed species potentially affected by the AEWP. Measures developed as part of the AEWP and mitigation measures presented in Section 4.21 (Wildlife Resources) would avoid, minimize, and/or compensate for potential effects to the desert tortoise and California condor. As specified in the guideline, BLM has initiated formal consultation with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act. Desert tortoise and California condor are also listed under the California Endangered Species Act, and the AEWP has the potential to affect two (2) additional species listed at the state level: Mohave ground squirrel and Swainson's hawk. Measures developed as part of the AEWP and mitigation measures presented in Section 4.21 (Wildlife Resources) would avoid, minimize, and/or compensate for potential effects to these state-listed species, and the Project Proponent would be required to consult with CDFG for 2081 take authorization for impacts to all state-listed species. Therefore, the AEWP would comply with the guideline to provide full protection to the species.

    Sensitive Species – Identified species would be given protection in management decisions consistent with BLM's policy for sensitive species management, BLM Manual 6840. The objective of this policy is to conserve and/or recover listed species, and to initiate conservation measures to reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing. Several BLM sensitive wildlife species present or likely to occur on habitat associated with the AEWP include, but are not limited to, coast horned lizard, burrowing owl, several mice, and a number of bat species. Those species that are likely to occur on the AEWP site would be protected under a number of mitigating measures meant to avoid, minimize, or compensate for impacts from the AEWP. Implementation of these measures would provide protection to sensitive species as required by BLM policies. The impacts and mitigation measures are discussed in detail in Section 4.21 (Wildlife Resources).

Predator and Pest Control – Control of depredation wildlife and pests would be allowed on Class M and Class L lands in accordance with existing State and federal laws. The AEWP would include a Raven Control Plan for depredation on desert tortoise. Therefore, this guideline is applicable to these actions but is allowed subject to conformance with State and federal laws.

Habitat Manipulation – The AEWP would not include habitat manipulation.

Reintroduction or Introduction of Established Exotic Species – reintroduction or introduction of native species or established exotic species is allowed on Class M and Class L lands. The AEWP would not include the reintroduction or introduction of exotic wildlife species. As required by mitigation in Section 4.17, the Project Proponent would prepare and implement an Integrated Weed Management Plan, which shall be developed in cooperation with the BLM and shall include a risk assessment of the invasive plant species currently known within the proposed AEWP site, procedures to control their spread on site and to adjacent off-site areas, and procedures to help minimize the introduction of new weed species. The Integrated Weed Management Plan shall be submitted to the BLM and Kern County for review and approval prior to the start of construction and shall be implemented prior to, during, and following the completion of construction for the life of the AEWP. With implementation of this plan, reintroduction or introduction of established exotic plant species would be minimized.

18. Wetland/Riparian Areas: No wetlands or riparian areas are present on the proposed AEWF site.
19. Wild Horses and Burros: No wild and free-roaming horses or burros are present on the AEWP site.

Chapter 3, "Energy Production and Utility Corridors Element," of the CDCA Plan requires that newly proposed power facilities that are not already identified in the CDCA Plan be considered through the plan amendment process. The AEWP is not currently identified in the CDCA Plan and, therefore, a plan amendment is required to include the facility as a recognized element within the CDCA, along with the issuance of a ROW grant. With such an amendment, the AEWP would be in compliance with the CDCA Plan requirements.

California Desert Conservation Area Plan – West Mojave Plan

Approval of the West Mojave Plan amended the CDCA Plan in 2006. The West Mojave Plan is a habitat conservation plan, and governs the AEWP site. Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources) provide analyses of the AEWP's compliance with this conservation plan, which state that with implementation of AEWP mitigation measures, the AEWP would conform with the West Mojave Plan. Refer to Section 4.17 and 4.21 for the applicable mitigation measures.

Federal Aviation Administration (FAA)

Federal Aviation Regulations (FAR) Title 14, Part 77, establishes the standards for determining obstructions in navigable airspace, including height limitations on structures taller than 200 feet or within 20,000 feet (3.8 miles) of an airport. The maximum height of project WTGs is 410 feet and the AEWP site is less than 3.8 miles from the Mojave Airport. Consequently, to ensure consistency with this FAA regulation, implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) (refer to Section 4.11, Public Health and Safety) is recommended, which would require the Project Proponent to file FAA Forms 7460-1 (Notice of Proposed Construction or Alteration). The AEWP would be consistent with this regulation upon filing of FAA Form 7460 1, Notice of Proposed Construction or Alteration, and Form 117–1, Notice of Progress of Construction or Alteration.

Kern County General Plan

Approval of the AEWP would include an amendment to the KCGP Circulation Element. An analysis of the AEWP's consistency with applicable KCGP policies and objectives is provided in Table 4.6-2 (Policy

Consistency Analysis) of this Final EIS/EIR. Based on this analysis, with an amendment to the KCGP, the AEWP would be consistent with the KCGP.

Mojave Specific Plan

An analysis of the AEWP's consistency with applicable Mojave Specific Plan policies and objectives is provided in Table 4.6-2 of this Final EIS/EIR. Based on this analysis, the AEWP would be consistent with the Mojave Specific Plan.

Kern County Airport Land Use Compatibility Plan (ALUCP)

Four commercial airports are located within 10 miles of the AEWP site: the Mojave Air and Spaceport, 3 miles to the southeast; the Mountain Valley Airport, 7.5 miles to the west; the Tehachapi Municipal Airport, 9.5 miles to the west; and the California City Municipal Airport, located 9.2 miles northeast.

A major military facility, Edwards Air Force Base (AFB), is located 9.5 miles to the southeast. Edwards AFB is an installation of the United States Air Force and serves air force military aircraft (AirNav, 2011c). Edwards AFB covers nearly 308,000 acres (USAF, 2011), and contains two parallel runways oriented northeast/southwest, Runways 4/22 left and right (AirNav, 2011d). As Edwards AFB is a United States Air Force military airfield, the number of daily aircraft operations is unavailable to the general public (AirNav, 2011c).

The ALUCP requires compliance with FAR and notification of construction to Edwards AFB. According to the Figure 19.08.106 of the County Zoning Ordinance, the AEWP site is located across two of the military review zones; including hatched green (No review requirement, County to provide building permit summary), and yellow (all structures over 500 feet). Without military review, those structures falling within the yellow zone would be limited to 500 feet above ground elevation. Additionally, Section 19.64 of the Kern County Zoning Ordinance limits the maximum allowable structure height to 500 feet. As stated in Section 2.0 (AEWP and Alternatives), the height of the WTGs would be 410 feet, as measured from the top of the foundation to the blade tip (with the blade in the vertical position).

As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would require the Project Proponent to submit documentation to the BLM and the County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and the County Planning Department demonstrating that a copy of the approved form(s) has been provided to the United States Department of Defense (DoD). Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections.

To ensure consistency with the ALUCP, Mitigation Measure 4.6-1 (Notice to Proceed) would require notification of construction to Edwards AFB and China Lake and compliance with FAR Title 14, Part 77, respectively. Therefore with implementation of this mitigation measures, the AEWP would be consistent with the County ALUCP.

A full analysis of the AEWP's consistency with applicable policies and objectives within the County's ALUCP is provided in Table 4.6-2 of this Proposed PA, Final EIS/EIR.

Kern County Zoning Ordinance

Development of the AEWP would require a change in zone classification on 418 acres to incorporate the WE Combining District to be incorporated into existing zone classifications. Implementation of the AEWP would require amendments of Zone Map 168.

Table 4.6-1. Proposed Changes in Zone Classification

	Map 168, Section 27
A-1 to A	Limited Agriculture to Exclusive Agriculture
A-1 to A WE	Limited Agriculture to Exclusive Agriculture, Wind Energy Combining
A-1 to A FP	Limited Agriculture to Exclusive Agriculture, Floodplain Combining
	Map 168, Section 33
E(20) to A	Estate Residential to Exclusive Agriculture
E(20) to A WE	Estate Residential to Exclusive Agriculture, Wind Energy Combining

The purpose of the proposed WE Combining District is to promote the use of an alternative to fossil fuel–generated electrical power in areas of Kern County that are identified to have available wind resources. The WE Combining District contains specific development standards and conditions that apply to all construction and siting of WTGs in this zone. With implementation of the proposed zone change, the AEWP would be consistent with the Kern County Zoning Ordinance for the proposed wind energy component.

Section 1.11, "General Plan and Zoning Compatibility Matrix," of the KCGP states that combining zone districts are considered consistent with the KCGP designations for which their primary or base zone district are consistent. Because the existing KCGP designations for the AEWP site are currently consistent with the site's zoning districts in accordance with State Planning and Zoning Law Section 65860, if the WE Zone District is found to be applicable to the AEWP site, then the addition of the WE Combining District to the existing zone districts would also be considered consistent with the KCGP designations.

With implementation of the WE Combining District, the AEWP would be consistent with the purpose of the base zoning districts. Additionally, as shown above, the Project Proponent has requested a zone change to A District for parcels with other existing classifications. Due to the rural nature of the AEWP site and surrounding areas, this zone change would not result in a significant environmental impact.

Implementation of the AEWP would also require County approval of a CUP to allow for the use of a temporary concrete batch plant to provide concrete and materials for construction of the wind and PV solar energy facilities and supporting infrastructure. Section 19.104.030 of the Kern County Zoning Ordinance specifies the basis for approval of a CUP and reads as follows:

19.104.040 Basis for Approval

The decision-making authority may approve or conditionally approve an application for a conditional use permit if it finds all of the following:

A. The proposed use is consistent with the goals and policies of the applicable General or Specific Plan.

B. The proposed use is consistent with the purpose of the applicable district or districts.

C. The proposed use is listed as a use subject to a conditional use permit in the applicable zoning district or districts or a use determined to be similar to a listed conditional use in accordance with the procedures set out in Sections 19.08.030 through 19.08.080 of this title.

D. The proposed use meets the minimum requirements of this title applicable to the use.

E. The proposed use will not be materially detrimental to the health, safety, and welfare of the public or to property and residents in the vicinity.

With implementation of the proposed Mitigation Measures listed in this Proposed PA, Final EIS/EIR, the AEWP would be consistent with the KCGP and the Kern County Zoning Ordinance. In addition, with the implementation of the referenced Mitigation Measures, the proposed temporary batch plant component of the AEWP would not pose a threat to the health, safety, or welfare of the public or the surrounding property and would therefore, demonstrate compliance with the requisite findings that the Kern County hearing body would need to make for approval of a CUP.

A full analysis of the AEWP's consistency with applicable zoning ordinances is provided in Table 4.6-2 at the end of this section. Based on this analysis, the AEWP would be consistent with the County's Zoning Ordinance.

4.6.3.1 Direct and Indirect Impacts

Construction

As discussed in Section 3.6, the AEWP site is generally characterized as sparsely developed and rural. Land uses in and around the AEWP area consist of open space with scattered residences, off-highway vehicle (OHV) use, and livestock grazing. The nearest populated area is located northeast of the AEWP area, in the outskirts of the unincorporated Community of Mojave. Existing developments within and surrounding the AEWP area include ROWs for underground pipelines, underground portions of the Los Angeles Aqueduct, Southern California Edison (SCE) electric transmission lines, Union Pacific Railroad (UPRR) railroad siding, which is a short stretch of railroad track used to store rolling stock or enable trains on the same line to pass, and a Los Angeles Department of Water and Power (LADWP) electric transmission line easement. The AEWP site also includes two Middle Knob Motorized Access Zone routes, as designated by the West Mojave Plan.

Construction of the AEWP would temporarily interfere with existing recreational activities since access to the AEWP site and OHV routes would be restricted during construction. Permanent security fencing would be installed in accordance with the County zoning requirements, which allow either fencing the perimeter of the entire AEWP property or fencing each WTG cluster or row independently. The installation of perimeter fencing would prohibit the public's access to the AEWP site, and assuming the fencing would be installed upon the commencement of construction, this would permanently disrupt on site recreation activities. However, fencing around clusters or rows of wind WTGs would temporarily disrupt the public access to the publically-owned portions of the AEWP site during the construction, but on-site recreation activities could resume upon the completion of construction. As such, the level of disruption to recreation activities will depend on how the AEWP site is ultimately fenced. Refer to Section 4.12, Recreation, for a full discussion of impacts associated with recreational resources.

Construction activities would also interfere with livestock grazing on the BLM's Warren and Hanson Common Allotments (refer to Section 4.7 for a full analysis of impacts associated with these grazing allotments). However, as part of the ROW grant, BLM would suspend grazing activities within the designated grazing allotments during the construction period, and grazing would resume at the completion of construction. In order to minimize interference with grazing activities, the ROW grant may require the fencing of individual turbines in the portions of Section 28 that are within the Hansen Common Allotment, and all of Section 34 which consists of the Warren Allotment.

Other on-site uses include existing ROWs, e.g., transmission lines, railroad, gas pipelines, the Los Angeles Aqueduct, and public highways. As stated in Section 2.0 (Project and Alternatives), fencing would not interfere with access to existing these ROWs crossing the AEWP area.

The AEWP's 230 kV transmission line would be a 15.2 miles long, of which 14.3 miles would be within County jurisdiction and 0.9 mile would be located within the AEWP site and on BLM land. Construction of 124 poles would result in a temporary disturbance impact of 124 acres, and an estimated 2.5 acres of temporary disturbance for up to 12 locations of pull-sites. The total temporary disturbance from the

transmission line road and placement of poles and associated pull-sites is 657.90 acres. The transmission line route would travel adjacent to and/or cross several other proposed and constructed wind projects, including the Alta–Oak Creek Mojave Project, the Alta Infill Project, and the Alta Infill II Project. In addition, the transmission line would run along a portion of the Alta Infill II Project alignment, and would be located in or parallel to existing transmission line corridors. The section of transmission line shown on Figure2-3 as the Alta Infill II Project transmission line has been approved by Kern County, as analyzed in the Alta Infill II Project EIR.

Since disturbances to surrounding land uses may occur as a result of construction activities, such as construction traffic and noise, Mitigation Measure 4.6-2 (Notification to Property Owners) requires the Project Proponent to notify property owners of all major construction milestones so that they are informed as to the time and location of potential disturbances.

Operation and Maintenance

As mentioned above under "Construction," portions of the AEWP site are currently used for recreational purposes and there are recreational resources surrounding the AEWP site. Permanent security fencing would be installed in accordance with County zoning requirements, which allow either fencing the exterior boundary of the entire AEWP property or fencing each WTG cluster or row independently. The installation of perimeter fencing would prohibit the public's access to the AEWP site and permanently disrupt on site recreation activities; while fencing around clusters or rows of WTGs would temporarily disrupt the public access to the AEWP site during the construction, but on site recreation activities could resume upon the completion of construction.

The permanent disturbance as a result of the transmission line poles would be 0.57 acres, while the total area of impact for the permanent disturbance for the AEWP from the transmission line road and placement of poles is 93.97 acres.

Decommissioning

As mentioned above under "Construction," the AEWP site is currently used for recreational purposes and grazing land. However, after the AEWP has been decommissioned, recreation users and livestock grazing could resume, which would result in beneficial impacts as the site would return to an undeveloped state. Decommissioning would require coordination similar to that performed during construction where the AEWP would overlap existing uses (including roads and transmission lines). As such, the decommissioning plan shall ensure that decommissioning is conducted in accordance with then-current land use plans, policies, or regulations.

4.6.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Construction

- **LA-2 (Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect).** With the approval of a plan amendment and ROW grant, construction of the AEWP would not conflict with the FLPMA and the CDCA Plan. The AEWP may conflict with the Middle Knob MAZ route designations if recreation is no longer available on site; however this impact is related to BLM-designated lands only and does not constitute an impact under CEQA.

  With the implementation of mitigation measures and the approval of the proposed, KCGP amendment, zone changes, and conditional use permit (CUP), the AEWP would comply with all applicable County plans, policies, and ordinances and impacts would be less than significant.

- **LA-3 (Conflict with any applicable habitat conservation plan or natural community conservation plan).** With implementation of biological mitigation measures presented in Sections 4.17 and 4.21, the AEWP would comply with the West Mojave Plan and impacts would be less than significant.

Operation and Maintenance

- **LA-2 (Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect).** Conflicts with the applicable plans, policies, and regulations would be the same as discussed under "Construction."
- **LA-3 (Conflict with any applicable habitat conservation plan or natural community conservation plan).** With implementation of biological mitigation measures presented in Sections 4.17 and 4.21, the AEWP would comply with the West Mojave Plan and impacts would be less than significant.

Decommissioning

- **LA-2(Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect).** The Wind Energy Combining District requires that any wind turbine that is not operational for a consecutive period of 12 months shall be deemed abandoned and shall be removed within 60 days from the date a written notice is sent to the property owner/project operator. As part of the proposed AWEP, a decommissioning plan will be implemented to ensure that the decommissioning of the AEWP would not conflict with applicable plans, policies, or regulations. Therefore, impacts would be less than significant.
- **LA-3 (Conflict with any applicable habitat conservation plan or natural community conservation plan).** Decommissioning activities would not conflict with the West Mojave Plan. Therefore, impacts would be less than significant.

4.6.4 Alternative B: Revised Site Layout

4.6.4.1 Direct and Indirect Impacts

In comparison to the AEWP, Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting of access roads. All other features associated with Alternative B would remain unchanged compared to that discussed above for the AEWP.

Construction

During construction of this alternative, potential impacts to lands and realty would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts to lands and realty would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts to lands and realty would be the same as described under "Decommissioning" for Alternative A.

4.6.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The CEQA significance determinations of impacts for Alternative B would be identical to Alternative A.

4.6.5 Alternative C: Reduced Project North

4.6.5.1 Direct and Indirect Impacts

Under Alternative C, all WTGs and ancillary facilities would remain identical to that of the AEWP. However, Alternative C would eliminate the central parcel within the AEWP boundary, which is located north of SR 58. The purpose of this alternative is to reduce potential biological resources and reduce the intensity of the impacts to MUC-L lands. However, this section is the site of a previously approved wind project (CACA 013772) and all of the equipment from that facility has been removed and the site decommissioned. This alternative would have the potential to reduce impacts as a result of the reduced level of construction and permanent habitat loss, the reduced number of WTGs on the landscape, and the avoidance of some Joshua tree woodland habitat adjacent to the Pacific Crest Trail.

Construction

During construction of this alternative, potential impacts to lands and realty would be the same as described under "Construction" for the AEWP. However, with the reduction of the size of the AEWP site, a smaller number of WTGs would be constructed; therefore, less land would be affected. In particular, Alternative C site would not include the Middle Knob MAZ routes designated by the West Mojave Plan.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts on lands and realty would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts on lands and realty would be the same as described under "Decommissioning" for Alternative A.

4.6.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

The CEQA significance determinations of lands and realty for Alternative C would be identical to the Alternative A, except that Alternative C would not conflict with the Middle Knob route designations.

4.6.6 Alternative D: Reduced Project Southwest

4.6.6.1 Direct and Indirect Impacts

Alternative D would eliminate the southwestern most parcel within the AEWP boundary to reduce the potential to impact existing and allowed livestock grazing on this parcel of BLM land. Figure 2-12 displays the Alternative D site layout and existing BLM and County land use designations. Currently, livestock grazing occurs within this southwestern parcel. The removal of this parcel and reduction in AEWP size would avoid conflicts with grazing livestock during both construction and operational activities based on the fencing plan that would be approved by the lead agencies, and would eliminate 19 WTGs through loss of land or requirements imposed by setbacks (CH2MHILL, 2011p).

Construction

During construction of this alternative, potential impacts to lands and realty would be the same as described under "Construction" for the AEWP. However, with the reduction of the size of the AEWP site, a smaller number of WTGs would be constructed; therefore, less BLM land would be affected.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts on lands and realty would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts on lands and realty would be the same as described under "Decommissioning" for Alternative A.

4.6.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

The CEQA significance determinations of lands and realty impacts for Alternative D would be identical to Alternative A, except that Alternative D would not conflict with the BLM's Warren Grazing Allotment. Refer to Section 4.7 (Livestock Grazing) for a full analysis of potential impacts.

4.6.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

4.6.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would not amend the CDCA Plan. As a result, no wind energy project would be constructed, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan. Because there would be no amendment to the CDCA Plan and no wind project approved for the site under this alternative, no new structures or facilities would be constructed or operated on the site and no new ground disturbance would occur. As a result, none of the impacts to lands and realty from construction or operation of the AEWP would occur.

4.6.7.2 CEQA Significance and Impact Determinations, Alternative E: No Issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

There would be no lands and realty impacts under Alternative E.

4.6.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.6.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and would not approve the AEWP, and the BLM would amend the CDCA Plan to find the AEWP site unsuitable for wind energy development. As a result, no wind energy project would be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan.

Because the CDCA Plan would be amended to make the area unavailable for future wind energy development, it is expected that the site would remain in its existing condition unless another use is designated in

this amendment. As a result, access to the site would not change and existing land uses would continue without any disruptions from construction of the AEWP. As such, this No Project Alternative would have no adverse impact on lands and realty within and adjacent to the site in the long term, and future wind development is unlikely as the plan would be amended to identify the site as unsuitable for wind development.

4.6.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

There would be no lands and realty impacts under Alternative F.

4.6.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

4.6.9.1 Direct and Indirect Impacts

Under this alternative, the BLM would not approve the AEWP, but would amend the CDCA Plan to find the AEWP site suitable for wind energy development. As a result, it is possible that another wind energy project could be constructed on the site. If this were to occur, it is likely that construction and operation impacts to lands and realty would be similar to the impacts from the AEWP.

4.6.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

With construction and operation of another wind energy development, the CEQA significance determinations for lands and realty impacts under Alternative G would be the same as AEWP.

4.6.10 Cumulative Impacts

4.6.10.1 Geographic Extent/Context

The geographic scope for the analysis of cumulative impacts related to lands and realty are the local and regional communities and sensitive receptors. The temporal scope of cumulative impacts is the life of the AEWP. Cumulative impacts to lands and realty could result from the physical division of an established community, or from conflicts with any applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts. Therefore, this analysis includes the renewable energy projects within Kern County, which may incur similar impacts to the existing on site land uses and the surrounding communities, and would also have to undergo a similar consistency analysis for plans, policies, and regulations as the AEWP.

4.6.10.2 Existing Cumulative Conditions

Past and present projects occurring in the vicinity of the AEWP site include passive recreational activities, OHV use, grazing land, wind energy developments, and utility easements. Potential cumulative lands and realty impacts surrounding the AEWP site may result from the new structures and development activities that could further restrict access surrounding land uses.

4.6.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM authorized actions/activities, and proposed or approved projects within the County's jurisdiction. These projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects, their effects were considered in the cumulative impacts analyses in this Proposed PA, Final EIS/EIR.

The foreseeable projects in the vicinity of the AEWP that would have potentially adverse impacts to lands and realty are listed below under "Construction."

4.6.10.4 Construction

The proposed developments near the AEWP site that would have the potential to induce cumulative impacts include thousands of acres of renewable energy generation projects that would have the potential to conflict with existing land uses. It is expected that some of the cumulative projects described above may be under construction the same time as the AEWP.

Construction of the AEWP is anticipated to commence in 2012 and require 9 to 12 months to complete. Of the projects listed in Table 4.1-1, construction of the following projects may occur at the same times as the AEWP:

- Tehachapi Renewable Transmission Project
- Pacific Wind Energy Project
- Pacific Wind Infill Project
- Windstar Energy Project
- Alta Infill Wind Project
- Tylerhorse Wind Project
- Catalina Renewable Energy Project
- Lower West Wind Energy Project
- Morgan Hills Wind Energy Project
- Rising Tree Wind Energy Project
- North Sky River and Jawbone Wind Energy Projects
- Clearvista Wind Project
- Avalon Renewable Energy Project
- Aero Energy Wind Project
- Distributed Solar Projects (10 individual solar projects)
- The Aeromen, LLC (four solar projects)
- High Desert Solar Project

As a result, there may be short-term impacts during construction of those cumulative projects related to lands and realty, including overall land use compatibility issues. However, in consideration of cumulative land use compatibility impacts, the implementation of renewable projects in southern California would occur mostly in undeveloped desert lands or areas of rural development (refer to Sections 4.6, 4.12, and 4.15 for cumulative impacts associated with MUCs, recreational resources, and lands under special designations, respectively), and would not create physical divisions of established residential communities. In addition, after construction the AEWP site would be restored to pre-project conditions and there would be no conflicts with applicable plans, policies, and regulations.

4.6.10.5 Operation and Maintenance

It is expected that some of the cumulative projects described above may be operational at the same time as the AEWP. As a result, there may be long-term impacts during operation of those cumulative projects related to lands and realty, including overall land use compatibility issues.

The AEWP could contribute to these possible long-term operational cumulative impacts since wind energy projects have been approved on an estimated 62,440 acres of land and are undergoing environmental review for use of 17,770 acres of land (Kern County, 2011c). Solar energy projects have been approved on an estimated 23,210 acres of land and are undergoing environmental review for use of 9,720 acres of land in County (Kern County 2012b). This represents about 2 percent of the total land in Kern County. The conversion of these lands would permanently preclude numerous existing land uses

including recreation, wilderness, rangeland, and open space. However, with approval of the plan amendment, ROW grant, and zone change, there would not be conflicts with applicable plans, policies, and regulations, the AEWP would not contribute to cumulative impacts lands and realty impacts. Impacts associated with access to the AEWP site will depend on the decision to install perimeter fencing or fencing of clusters of WTGS.

4.6.10.6 Decommissioning

The decommissioning of the AEWP is expected to result in adverse impacts similar to construction impacts. Disruptions from the decommissioning of other renewable energy projects would have the potential to combine with the decommissioning activities associated with the AEWP, which would result in a cumulative impact. Therefore, the AEWP's contribution to cumulative impacts to lands and realty during decommissioning would be temporary in nature. Ultimately, the AEWP site would be returned to the current state.

4.6.10.7 CEQA Significance and Impact Determinations, Cumulative

Construction

- **LA-2 (Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect).** With the approval of a plan amendment and ROW grant, construction of the AEWP would not conflict with the FLPMA and the CDCA Plan.

  With the implementation of mitigation measures and the approval of the proposed zone changes and conditional use permit (CUP), the AEWP would comply with all applicable County plans, policies, and ordinances and impacts would be less than significant.

- **LA-3 (Conflict with any applicable habitat conservation plan or natural community conservation plan).** With implementation of biological mitigation measures presented in Sections 4.17 and 4.21, the AEWP would comply with the West Mojave Plan and impacts would be less than significant.

Operation and Maintenance

- **LA-2 (Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect).** Conflicts with the applicable plans, policies, and regulations would be the same as discussed under "Construction."

- **LA-3 (Conflict with any applicable habitat conservation plan or natural community conservation plan).** With implementation of biological mitigation measures presented in Sections 4.17 and 4.21, the AEWP would comply with the West Mojave Plan and impacts would be less than significant.

Decommissioning

- **LA-2 (Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect).** Land use plans, policies, or regulations may have changed by the time the AEWP would be decommissioned. However, a decommissioning plan will be implemented to ensure that the decommissioning of the AEWP would not conflict with applicable plans, policies, or regulations, and impacts would be less than significant.

- **LA-3 (Conflict with any applicable habitat conservation plan or natural community conservation plan).** Decommissioning activities would not conflict with the KCGP, Zoning Ordinance, or the West Mojave Plan. Impacts would be less than significant.

4.6.11 Mitigation Measures

As noted in the above analysis for Impact LA-2 (Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project [including but not limited to the general plan, specific plan, or zoning ordinance] adopted for the purpose of avoiding or mitigating an environmental effect), impacts would remain less than significant with implementation of the following mitigation measures:

MM 4.6-1 **Notice to Proceed.** Prior to the issuance of grading or building permits and/or a Notice to Proceed from the BLM, the project proponent shall submit a final project design to the authorized officer of Edwards Air Force Base and China Lake Naval Air Weapons Station. Said final project design, shall be in the form of a detailed plot plan as required by Section 19.64.130 ~~19.64.140~~ (Detailed Plot Plan Required – Contents) of the Kern County Zoning Ordinance and shall include final specifications on the height and location of the wind turbine generators to be installed as well as the anticipated schedule of each construction phase.

MM 4.6-2 **Notification to Property Owners.** At least 30 days prior to the commencement of grading or building and/or a Notice to Proceed, the project proponent shall mail a copy of the construction schedule to property owners within 1,000 feet of the project site. The purpose of this notification shall be so that property owners are informed as to the time and location of disturbance. Updates shall be provided as necessary.

4.6.12 Residual Impacts After Mitigation

There would be no adverse unavoidable impact to lands and realty as a result of construction, operation and maintenance, or decommissioning of the AEWP.

4.6.13 Policy Consistency Analysis

Consistent with CEQA Guidelines Section 15125(d), the Final EIS/EIR must discuss any inconsistencies between a proposed project and applicable general plans and regional plans. Each environmental resource section identifies Kern County's applicable laws, ordinances, regulations, and standards in Chapter 3 (Affected Environment) of the Final EIS/EIR. Table 4.6-2 below specifically addresses proposed AEWP consistency with the KCGP, the Mojave Specific Plan, the Airport Land Use Compatibility Plan, and the Zoning Ordinance. Discussions of consistency with applicable Bureau of Land Management (BLM) and regional plans are discussed in each resource section in Chapter 3 (Environmental Consequences).

Goals, objectives, and policies not considered relevant to the AWEP are not discussed here, as CEQA Guidelines Section 15125(d) only requires discussion of applicable aspects of general plans.

Please note that the KCGP is not applicable to lands administered by the BLM. The provisions of the KCGP are only enforceable to those portions of the AEWP located in unincorporated territory outside of BLM jurisdiction.

Refer to each individual issue area within Chapter 4.0 of this Proposed PA, Final EIS/EIR for a detailed analysis and identification of proposed mitigation measures.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
KERN COUNTY GENERAL PLAN		
Chapter 1. Land Use/Conservation/Open Space Element		
1.3 Physical and Environmental Constraints		
Goal 1. To strive to prevent loss of life, reduce personal injuries, and property damage, minimize economic and social diseconomies resulting from natural disaster by directing development to areas which are not hazardous.	Consistent	Development of the AEWP would occur on physically and environmentally constrained areas. However, as noted below for Policy 1, incorporation of the Wind Energy (WE) Combining District and Floodplain (FP) Combining District would regulate development and require compliance with standards in hazardous areas, and would therefore minimize potential damage from natural disasters.
Policy 1. Kern County will ensure that new developments will not be sited on land that is physically or environmentally constrained (Map Code 2.1 [Seismic Hazard], Map Code 2.2 [Landslide], Map Code 2.3 [Shallow Groundwater], Map Code 2.5 [Flood Hazard], Map Codes from 2.6 – 2.9, Map Code 2.10 [Nearby Waste Facility], and Map Code 2.11 [Burn Dump Hazard]) to support such development unless appropriate studies establish that such development will not result in unmitigated significant impact.	Consistent with implementation of Mitigation Measure 4.14-1.	As shown in Figure 2-5, the AEWP site, as well as the AEWP transmission line ROW, includes areas on Kern County lands that are designated Map Code 2.4 (Steep Slope) and Map Code 2.5 (Flood Hazard). The following describes the AEWP's consistency with each constraint: **Steep Slopes:** The AEWP site includes 437.8 acres of the steep slopes overlay. The KCGP defines a steep slope as land with an average slope of 30 percent or steeper. Portions of the AEWP site include areas with steep slopes; however, the WE Combining District prohibits construction on any slopes steeper than four to one (4:1), or 25 percent, unless mitigation is provided. As described in Section 4.14 (Geology and Soil Resources), prior to the issuance of building or grading permits, Mitigation Measure 4.14-1 requires the applicant to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site, which includes the potential for seismically induced ground shaking, liquefaction, landslides, differential settlement, and mudflows. The Project Proponent must submit the report to the Kern County Department of Building and Safety for review and approval. In addition, Mitigation Measure 4.14-1 requires the Project Proponent to determine the final siting of AEWP facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. Therefore, potential impacts would be mitigated to a less-than-significant level. **Flood Hazard:** The AEWP site includes 8.5 acres of the flood hazard overlay. Construction activities which occur within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County would comply with the requirements and construction design specifications of the Kern County Grading Code and Floodplain Management Ordinance. Construction and operation activities associated with the AEWP are not expected to impede or redirect flood flows within identified Flood Hazard Areas. Therefore, the AEWP would not result new or substantially more

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
		adverse impacts related to flood hazards beyond that described in the Section 3.19 (Water Resources).
Policy 2. In order to minimize risk to Kern County residents and their property, new development will not be permitted in hazard areas in the absence of implementing ordinances and programs. These ordinances will establish conditions, criteria, and standards for the approval of development in hazard areas. **Policy 3.** Zoning and other land use controls will be used to regulate and, in some instances, to prohibit development in hazardous areas.	Consistent with implementation of Mitigation Measures presented in Section 4.14 (Geology and Soil Resources) and 3.19 (Water Resources).	Incorporation of the WE Combining District, FP Combining District, and Mitigation Measures presented in Sections 4.14 (Geology and Soil Resources) and 3.19 (Water Resources) would require compliance with conditions, criteria, and standards for development in seismic and flood hazardous areas, and would therefore minimize potential damage from natural disasters.
Policy 6. Regardless of percentage of slope, development on hillsides will be sited in the least obtrusive fashion, thereby minimizing the extent of topographic alteration required and reducing soil erosion while maintaining soil stability. **Policy 7.** Ensure effective slope stability, wastewater drainage, and sewage treatments in areas with steep slopes are adequate for development.	Consistent with implementation of Mitigation Measure 4.14-1.	Portions of the AEWP site include areas with steep slopes; however, the WE Combining District prohibits construction on any slopes steeper than four to one (4:1), or 25 percent, unless mitigation is provided. As described in Section 4.14 (Geology and Soil Resources), prior to the issuance of building or grading permits, Mitigation Measure 4.14-1 requires the Project Proponent to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site, which includes the potential for seismically induced ground shaking, liquefaction, landslides, differential settlement, and mudflows. The Project Proponent must submit the report to the Kern County Department of Building and Safety for review and approval. In addition, Mitigation Measure 4.14-1 requires the Project Proponent to determine the final siting of AEWP facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. Therefore, potential impacts would be mitigated to a less-than-significant level.
Policy 8. Encourage the preservation of the floodplain's flow conveyance capacity, especially in floodways, to be open space/passive recreation areas throughout the County.	Consistent	According to Sections 4.14 (Geology and Soil Resources) and 4.19 (Water Resources), any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of the Kern County Floodplain Management Ordinance.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 9. Construction of structures that impede water flow in a primary floodplain will be discouraged.	Consistent	Portions of the AEWP site are located within FEMA-designated Flood Hazard Areas. As described in Section 4.19 (Water Resources), construction activities which occur within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County would comply with the requirements and construction design specifications of the Kern County Grading Code and Floodplain Management Ordinance. Construction and operation activities associated with the AEWP are not expected to impede or redirect flood flows within identified Flood Hazard Areas.
Policy 10. The County will allow lands which are within flood hazard areas, other than primary floodplains, to be developed in accordance with the General Plan and Floodplain Management Ordinance, if mitigation measures are incorporated so as to ensure that the proposed development will not be hazardous within the requirements of the Safety Element (Chapter 4) of this General Plan.	Consistent	The AEWP site includes areas that are designated Flood Hazard. According to Section 4.19 (Water Resources), any construction that takes place within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County will comply with the requirements and construction design specifications of the Kern County Floodplain Management Ordinance.
1.4 Public Facilities and Services		
Goal 1. Kern County residents and businesses should receive adequate and cost effective public services and facilities. The County will compare new urban development proposals and land use changes to the required public services and facilities needed for the project.	Consistent with implementation of Mitigation Measures 4.20-1 through 4.20-3.	As discussed in Section 4.13 (Social and Economic Issues), the AEWP would not adversely impact existing population levels of Kern County, which could directly impact existing public service capacities or response times thus requiring additional facilities or expansion of existing facilities. Furthermore, as discussed in Section 4.20 (Wildland Fire Ecology), the implementation of Mitigation Measures 4.20-1 through 4.20-3 would ensure no adverse impacts occur to existing fire protection services. As discussed in Section 4.16 (Transportation and Public Access), all new access roads associated with the AEWP would be private roadway and construction and operational traffic would not adversely impact existing capacities or service levels on public roadways. Therefore, the AEWP would not adversely impact public roadways.
Policy 1. New discretionary development will be required to pay its proportional share of the local costs of infrastructure improvements required to service such development.	Consistent	Although water consumption is expected to be minimal, the AEWP would include installation of a new water well for long-term maintenance activities. Water for construction would be purchased from local water purveyors and transported to the site by truck. In addition, the AEWP would pay a fair share of any other infrastructure improvements required (e.g., road improvements).

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 6. The County will ensure adequate fire protection to all Kern County residents.	Consistent with implementation of Mitigation Measures 4.20-1 through 4.20-3.	As discussed in Section 4.19 (Wildland Fire Ecology), the implementation of Mitigation Measures 4.20-1 through 4.20-3 would ensure no adverse impacts occur to existing fire protection services.
Policy 7. The County will ensure adequate police protection to all Kern County residents.	Consistent	As discussed in Section 4.13 (Social and Economic Issues), the AEWP would not adversely impact existing population levels of Kern County, which could directly impact existing public service capacities or response times thus requiring additional facilities or expansion of existing facilities. The AEWP would not require an increase in Sheriff Department staffing.
1.5 Special Treatment Areas		
Goal 1. To recognize the validity of existing Specific Plan and Rural Community Plan Decisions and to identify areas for which similar detailed planning efforts should be undertaken in the future so as to best meet the needs and concerns of local residents.	Consistent	The AEWP would be consistent Mojave Specific Plan. Refer to the consistency discussions below.
Policy 3. Rural communities are historically identifiable small-scale non-urban settlements located in outlying areas of the County which contain a mixture of residential and supportive commercial and other use serving the community and the surrounding rural population. The County will ensure that the unique character of these communities is preserved and enhances by recognizing the scale, density, size, and composition of development as summarized in Appendix B.	Consistent	Portions of the AEWP site are within the Mojave Specific Plan; however, the AEWP would be designed to limit environmental impacts to the maximum extent practicable.
Policy 5. Specific Plan Areas guidelines shall be used to ensure adequate consideration of the General Plan goals and policies governing development and resource management.	Consistent	The proposed AEWP would be consistent Mojave Specific Plan. Refer to the consistency discussions below.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
1.9 Resource		
Goal 1. To contain new development within an area large enough to meet generous projections of foreseeable need, but in locations which will not impair the economic strength derived from the petroleum, agriculture, rangeland, or mineral resources, or diminish the other amenities which exist in the County.	Consistent	The AEWP site does not include prime farmland or enhanced agricultural soils with surface water delivery system; therefore, the agricultural productivity of the land is limited. In addition, the WE Combining District to be overlain on the A Base Zoning District would ensure compatibility between wind energy development and agricultural uses, assuming no significant impairment to agricultural uses. Development of the AEWP would temporarily preclude access to known mineral resources. However, because the life expectancy of the AEWP is 30 years, access to mineral resources would not be permanently precluded.
Goal 2. Protect areas of important mineral, petroleum, and agricultural resource potential for future use.		
Goal 3. Ensure the development of resource areas minimize effects on neighboring resources lands.	Consistent with incorporation of the WE Combining District.	The AEWP would implement this goal by maximizing utilization of natural wind resources and providing a wind energy development that is designed to limit environmental impacts to the maximum extent practicable. In addition, incorporation of the WE Combining District would ensure safe and orderly wind energy development.
Goal 4. Encourage safe and orderly energy development within the County, including research and demonstration projects, and to become actively involved in the decision and actions of other agencies as they affect energy development in Kern County.		
Goal 6. Encourage alternative sources of energy, such as solar and wind energy, while protecting the environment.		
Policy 1. Appropriate resource uses of all types will be encouraged as desirable and consistent interim uses in undeveloped portions of the County regardless of General Plan designation.		
Policy 7. Areas designated for agricultural use, which include Class I and II and other enhanced agricultural soils with surface delivery water systems, should be protected from incompatible residential, commercial, and industrial subdivision and development activities.	Consistent	The AEWP site was historically and is currently used for rangeland/grazing, off-road vehicle usage, and various recreational activities. The site does not include prime farmland or enhanced agricultural soils with surface water delivery system; therefore, the agricultural productivity of the land is limited.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 11. Minimize the alteration of natural drainage areas. Require development plans to include necessary mitigation to stabilize runoff and silt deposition through utilization of grading and flood protection ordinances.	Consistent with implementation of Mitigation Measure 4.14-1.	See Section 1.3, Physical and Environmental Constraints, Policy 1, above.
Policy 14. Emphasize conservation and development of identified mineral deposits.	Consistent	According to Section 4.8 (Mineral Resources), development of the AEWP would temporarily preclude access to locally important sand and gravel resources over the 30-year life of the AEWP. However, preclusion of access to this locally important resource would be temporary and would not result in permanent loss.
Policy 16. The County will encourage development of alternative energy sources by tailoring its Zoning and Subdivision Ordinances and building standards to reflect Alternative Energy Guidelines published by the California State Energy Commission.	Consistent	The AEWP would generate wind energy and offset an equivalent amount of fossil fuel-generated electrical power.
Policy 19. Work with other agencies to define regulatory responsibility concerning energy-related issues.	Consistent	The County and BLM will continue to work with other agencies to monitor these activities as they relate to the AEWP and to other wind energy projects.
Policy 25. Discourage incompatible land use adjacent to Map Code 8.4 (Mineral and Petroleum) areas.	Consistent	Development of the AEWP would temporarily preclude access to sand and gravel resources over the 30-year life of the AEWP. However, preclusion of access would be temporary and would not result in permanent loss. Impacts would be less than significant and no mitigation is warranted, as discussed in Section 4.8 (Mineral Resources).
1.10 General Provisions		
1.10.1 Public Services and Facilities		
Goal 1. Ensure that the County can accommodate anticipated future growth and development while maintaining a safe and healthful environment and a prosperous economy by preserving valuable natural resources, guiding development away from hazardous areas, and assuring the provision of adequate public services.	Consistent with implementation of Mitigation Measure 4.20-1.	As stated in Sections 4.11 (Public Health and Safety) and 4.20 (Wildland Fire Ecology), with implementation of the mitigation proposed, the AEWP would not require expansions of public services. In addition, incorporation of the WE Combining District and FP Combining District would require compliance with conditions, criteria, and standards for development in hazardous areas.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 9. New development should pay its pro rata share of the local cost of expansions in services, facilities, and infrastructure which it generates and upon which it is dependent.		
Policy 15. Prior to approval of any discretionary permit, the County shall make the finding, based on information provided by the California Environmental Quality Act (CEQA) documents, staff analysis, and the applicant, that adequate public or private services and resources are available to serve the proposed development.	Consistent	This Proposed PA, Final EIS/EIR serves to comply with these policies.
Policy 16. The developer shall assume full responsibility for costs incurred in service extension or improvements that are required to ensure the project. Cost sharing or other forms of recovery shall be available when the service extensions or improvements have a specific quantifiable regional significance.		
1.10.2 Air Quality		
Policy 18. The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and the valley region to meet attainment goals.	Consistent	This Proposed PA, Final EIS/EIR serves to comply with these policies. See Section 4.2 (Air Quality).

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 19. In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that: a. All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and b. The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.		
Policy 20. The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.	Consistent with implementation of Mitigation Measure 4.2-1.	Section 4.2 (Air Resources), requires the applicant to implement a fugitive dust control plan.
Policy 21. The County shall support air districts' efforts to reduce PM10 and PM2.5 emissions.	Consistent with implementation of Mitigation Measures 4.2-1 and 4.2-3.	The AEWP would result in PM10 emissions during construction and operation; however, mitigation is proposed to reduce the effects (see MMs 4.2-1 and 4.2-3). The AEWP itself, once running, would help to reduce regional PM emissions by offsetting an equivalent amount of electrical power that would otherwise be generated by burning fossil fuel.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
1.10.3 Archaeological, Paleontological, Cultural, and Historical Preservation		
Policy 25. The County will promote the preservation of cultural and historic resources which provide ties with the past and constitute a heritage value to residents and visitors.	Consistent with implementation Section 4.4 (Cultural Resources) mitigation measures.	Section 4.4 (Cultural Resources) describes the cultural resource in the AEWP site and area and contains mitigation measures that minimize impacts to cultural resources.
1.10.5 Threatened and Endangered Species		
Policy 27. Threatened or endangered plant and wildlife species should be protected in accordance with state and federal laws.	Consistent with implementation of mitigation measures for biological resources from Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources).	During construction, impacts on sensitive species would be less than significant. During operation, impacts on biological resources could largely be reduced to a less-than-significant level with mitigation. However, during operation, impacts on certain sensitive avian species are uncertain and, therefore, considered potentially significant and unavoidable. The AEWP would include post-construction biological monitoring and evaluation to assess impacts (the mortality of the affected species) associated with AEWP operations. If post-construction monitoring shows low levels of mortality and no endangered species killed, no further mitigation would be required. If post-construction monitoring shows significant impacts, the County would conduct additional environmental review in conjunction with the applicant and appropriate resources agencies. Although the AEWP could result in significant impacts on avian species, it would be developed and operated in accordance with State and federal laws.
Policy 28. County should work closely with state and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources. **Policy 31.** Under the provisions of the California Environmental Quality Act, the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document is prepared.	Consistent	As part of the biological resources evaluation effort for the AEWP, relevant State and federal agencies were contacted to ensure that appropriate information about the AEWP site was being gathered. A Notice of Intent and a Notice of Preparation for this Proposed PA, Final EIS/EIR was sent to state and federal agencies requesting their input on the biological resource evaluation. This EIS/EIR will be circulated to these agencies, and staff will have the opportunity to comment on the biological resources evaluation. Therefore, the County is complying with this policy for the AEWP.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 32. Riparian areas will be managed in accordance with United States Army Corps of Engineers, and the California Department of Fish and Game rules and regulations to enhance drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use pattern	Consistent	No riparian areas are present in the AEWP area. None of the drainages on the AEWP site are subject to U.S. Army Corps of Engineers jurisdiction. Therefore, the AEWP would not conflict with this policy.
1.10.6 Surface Water and Groundwater		
Policy 43. Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.	Consistency to be determined.	Final AEWP design would be in conformance with the Kern County Development Standards and Grading Ordinance. This would be confirmed during plot plan review by the Planning Department.
Policy 44. Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act, to prevent the degradation of the watershed to the extent practical.	Consistent	Section 4.19 (Water Resources), presents watershed impacts and mitigation measures.
1.10.7 Light and Glare		
Policy 47. Ensure that light and glare from discretionary new development projects are minimized in rural as well as urban areas.	Consistent with implementation of Mitigation Measure 4.18-2	With recommended Mitigation Measure 4.18-2, nighttime lighting would be contained and minimized, and the AEWP would be consistent with Policies 47 and 48.
Policy 48. Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.		
1.10.10 Oak Tree Conservation		
Policy 65. Oak woodlands and large oak trees shall be protected where possible and incorporated into project developments.	Consistent	The AEWP would not impact oak trees or oak woodlands.
Chapter 2. Circulation Element		
Goal 4. Kern County will plan for a reduction of environmental effects without accepting a lower quality of life in the process.	Consistent	This Proposed PA, Final EIS/EIR serves to comply with this goal.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Goal 5. Maintain a minimum Level of Service (LOS) D for all roads throughout the County.	Consistent with the implementation of Mitigation Measures 4.16-1 through 4.16-3.	As discussed in Section 4.16 (Transportation and Public Access), Mitigation Measures 4.16-1 through 4.16-3 would ensure all Kern County roadways operate at LOS D or better.
Circulation Element – Section 2.5.2 Airport Land use Compatibility Plan (ALUCP)		
Goal 1 Plan for land uses that are compatible with public airport and military bases and mitigate encroachment issues.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the United States Department of Defense (DoD). Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
Policy 1 Review land use designations and zoning near public and private airports, Edwards Air Force Base and Naval Air Weapons (NAWS) China Lake for compatibility. **Policy 2.** To the extent legally allowable prevent encroachment on public airport and military base operations from incompatible, unmitigated land uses.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that is has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
Chapter 3. Noise Element		
Goal 1. Ensure that residents of Kern County are protected from excessive noise and that moderate levels of noise are maintained.	Consistent with the implementation of Mitigation Measures 4.9-1 through 4.9-3.	As discussed in Section 4.9 (Noise), noise impacts would be reduced to a less-than-significant level and not significantly increase ambient conditions with the implementation of Mitigation Measures4.9-1 through 4.9-3.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 1. Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.	Consistent with the implementation of Mitigation Measure 4.9-3.	If noise impacts are above the levels in the WE Combining District, noise levels caused by the AEWP would be mitigated by one of several methods for those sites that are near noise-sensitive land uses per Mitigation Measure 4.9-3 within Section 4.9 (Noise).
Policy 2. Require noise level criteria applied to all categories of land uses to be consistent with the recommendations of the California Division of Occupational Safety and Health.	Consistent with the implementation of Mitigation Measures 4.9-1 through 4.9-3.	As discussed in Section 4.9 (Noise), noise impacts would be reduced to a less-than-significant level and be consistent with OSHA performance standards with the implementation of Mitigation Measures 4.9-1 through 4.9-3.
Policy 3. Encourage vegetation and landscaping along roadways and adjacent to other noise sources in order to increase absorption of noise.	Consistent	AEWP construction would maintain existing vegetation to the maximum extent practicable.
Policy 4. Utilize good land use planning principles to reduce conflicts related to noise emissions.	Consistent with the implementation of Mitigation Measures 4.9-3.	If noise impacts are above the levels in the WE Combining District, noise levels caused by the AEWP would be mitigated by one of several methods for those sites that are near noise-sensitive land uses per Mitigation Measure 4.9-3 within Section 4.9 (Noise).
Policy 5. Prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Such mitigation shall be designed to reduce noise to the following levels: a. 65 dB-Ldn or less in outdoor activity areas. b. 45 dB-Ldn or less within living spaces or other noise sensitive interior spaces	Consistent with the implementation of Mitigation Measures 4.9-1 through 4.9-3.	As discussed in Section 4.9 (Noise), noise impacts would be reduced to a less-than-significant level and not exceed these Kern County performance standard thresholds with the implementation of Mitigation Measures 4.9-1 through 4.9-3.
Policy 7. Employ the best available methods of noise control.	Consistent with the implementation of Mitigation Measure 4.9-3.	As discussed in Section 4.9 (Noise), noise impacts would be reduced to a less-than-significant level and not significantly increase ambient conditions with the implementation of Mitigation Measures4.9-1 through 4.9-3.
Chapter 4. Safety Element		
Goal 1. Minimize injuries and loss of life and reduce property damage.	Consistent	Development of the AEWP would occur on physically and environmentally constrained areas. However, incorporation of the WE Combining District and FP Combining District would regulate development and require compliance with standards in hazardous areas, and would therefore minimize potential damage from natural disasters.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 1. Require discretionary projects to assess impacts on emergency services and facilities.	Consistent with implementation of Mitigation Measure 4.20-1.	As discussed in Section 4.13 (Social and Economic Issues), the AEWP would not adversely impact existing population levels of Kern County, which could directly impact existing public service capacities or response times thus requiring additional facilities or expansion of existing facilities. Furthermore, as discussed in Section 4.20 (Wildland Fire Ecology), the implementation of Mitigation Measures 4.20-1 through 4.20-3 would ensure no adverse impacts occur to existing fire protection services. As discussed in Section 4.16 (Transportation and Public Access), all new access roads associated with the AEWP would be private roadway and construction and operational traffic would not adversely impact existing capacities or service levels on public roadways. Therefore, the AEWP would not adversely impact public roadways.
Policy 2. The County will encourage the promotion of public education about fire safety at home and in the work place.	Consistent	Residences are not part of the AEWP; therefore, residents would not need to be educated on fire safety. As part of the AEWP, the applicant would develop a fire safety plan for use during construction and operation.
Policy 3. The County will encourage the promotion of fire prevention methods to reduce service protection costs and costs to taxpayers.	Consistent with implementation of Mitigation Measure 4.20-1.	As part of the AEWP, the Project Proponent would implement a fire safety plan (Mitigation Measure 4.20-1) for use during construction and operation. This would encourage the promotion of fire prevention methods.
Policy 4. Ensure that new development of properties have sufficient access for emergency vehicles and for the evacuation of residents.	Consistent with implementation of Mitigation Measures 4.11-5 and 4.16-1	As discussed in Section 4.11 (Public Health and Safety), implementation of Mitigation Measure 4.11-5 would require the Proponent to appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the AEWP site and ensure access for emergency vehicles to the AEWP site. Additionally, as discussed in Section 4.16 (Transportation and Public Access), Mitigation Measure 4.16-1 requires the Project Proponent to prepare a Construction Traffic Control Plan, which would address and ensure emergency access vehicle movement to the site.
Policy 5. Require that all roads in wildland fire areas are well marked, and that homes have addresses prominently displayed.	Consistent	The AEWP does not propose any residences. The applicant would develop and implement a fire safety plan for use during construction and operation.
Policy 6. All discretionary projects shall comply with the adopted Fire Code and the requirements of the Fire Department.	Consistent	The AEWP would comply with the adopted Fire Code and the requirements of the Fire Department.
Chapter 5 Energy Element		
Goal. To promote the safe and orderly development of wind energy as a clean method of generating electricity while providing for the protection of the	Consistent	The AEWP would implement this goal by providing a wind energy development that is designed to limit environmental impacts to the maximum extent practicable.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
environment.		
Policy 2. All wind energy development shall be subject to the development standards of Kern County Zoning Ordinance.	Consistent	The AEWP would comply with the WE Combining District development standards, which would be confirmed by the Planning Department in its review of the final plot plan.
Policy 4. The County shall work with the wind energy industry to maximize electrical potential while assuring that military flight operations, communication facilities and visual conflicts for neighboring property owners are addressed.	Consistent	The height of the tallest wind turbine generator would be approximately 410 feet, which is in accordance with Figure 19.08.160 of the Kern County Zoning Ordinance. Section 4.1, Aesthetics concludes that the visual impacts of the AEWP would be significant.
Policy 7. The processing of all discretionary energy project proposals shall comply with California Environmental Quality Act (CEQA) Guidelines directing that the environmental effects of a project must be taken into account as part of project consideration.	Consistent with implementation of mitigation measures proposed by this Proposed PA, Final EIS/EIR.	The AEWP would comply with the WE Combining District development standards, which requires approval of a detailed plot plan demonstrating compliance with any mitigation measures incorporated into any environmental documents adopted for the implementation of a WE district for specific parcels.
MOJAVE SPECIFIC PLAN		
Chapter 3. Land Use Element		
Goal. Improve and maintain distribution and compatibility of land uses.	Consistent	The WE Combining District to be overlain on the A Base Zoning District would ensure compatibility between wind energy development and existing uses, assuming no significant impairment to agricultural uses.
Goal. Provide for adequate public facilities.	Consistent	As discussed in Section 4.11 (Public Health and Safety) and 4.20 (Wildland Fire Ecology), the AEWP would not adversely impact existing public services or require additional facilities.
Goal. Develop and maintain adequate utilities and infrastructure to support future commercial development.	Consistent	The AEWP would pay a fair share of any other infrastructure improvements required (e.g., road improvements).

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 3.1.1. Projects within the Specific Plan area shall be constructed to Kern County's Type A Subdivision Standards as defined in the Kern County Land Division Ordinance and the Kern County Zoning Ordinance for all commercial, industrial and residential with densities more than 1 unit per half acre. All other development shall be constructed to Type B Subdivision Standards. Projects with less than 50% individual or cumulative additions will not require street improvements and construction of curb, gutter and sidewalk.		
Policy 3.1.3. Development projects shall be consistent with the adopted Kern County Airport Land Use Compatibility Plan.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.10, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
Policy 3.5.1. Proposed projects within the seismic hazard overlay shall meet all requirements of the Kern County Building Code.	Consistent with implementation of Mitigation Measure 4.14-1.	As shown in Figure 2-5, the AEWP site, as well as the AEWP transmission line ROW, includes areas on Kern County lands that are designated Map Code 2.4 (Steep Slope) and Map Code 2.5 (Flood Hazard). The following describes the AEWP's consistency with each constraint: **Steep Slopes:** The KCGP defines a steep slope as land with an average slope of 30 percent or steeper. Portions of the AEWP site include areas with steep slopes; however, the WE Combining District prohibits construction on any slopes steeper than four to one (4:1), or 25 percent, unless mitigation is provided. As described in Section 4.14 (Geology and Soil Resources), prior to the issuance of building or grading permits, Mitigation Measure 4.14-1 requires the applicant to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site, which includes the potential for seismically induced ground shaking, liquefaction, landslides, differential settlement, and mudflows. The Project Proponent must submit the report to the Kern County Department of Building and Safety for review and approval. In addition, Mitigation Measure 4.14-1 requires the Project Proponent to determine the final siting of AEWP facilities based on the results of the geotechnical study and implement

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
		recommended measures to minimize geologic hazards. Therefore, potential impacts would be mitigated to a less-than-significant level. **Flood Hazard:** As a portion of the AEWP site on Kern County lands are located within this zone. Construction activities which occur within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County would comply with the requirements and construction design specifications of the Kern County Grading Code and Floodplain Management Ordinance. Construction and operation activities associated with the AEWP are not expected to impede or redirect flood flows within identified Flood Hazard Areas. Therefore, the AEWP would not result new or substantially more adverse impacts related to flood hazards beyond that described in the Section 3.19 (Water Resources).
Policy 3.6.3: New development shall provide adequate flood control to protect properties within the 100-year floodplain.	Consistent	Portions of the AEWP site are located within FEMA-designated Flood Hazard Areas. As described in the Section 4.19 (Water Resources), construction activities which occur within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County would comply with the requirements and construction design specifications of the Kern County Grading Code and Floodplain Management Ordinance. Construction and operation activities associated with the AEWP are not expected to impede or redirect flood flows within identified Flood Hazard Areas.
Policy 3.8.1. Provide buffers between service and heavy industrial uses and residential areas.	Consistent	Under the requirements of the WE Overlay, a minimum wind generator setback of one and one-half times the overall machine height (measured from grade to the top of the structure, including the uppermost extension of any blade) shall be maintained from any publicly maintained public highway or street. Therefore, the AEWP would be consistent with this policy.
Policy 3.8.4. To minimize potential noise and health hazards, buffering should be utilized to separate service and heavy industrial uses from surrounding residences. Buffers shall be reviewed during the Precise Development process. Buffers may be imposed when necessary. Landscaping, picnic areas, parking, offices, indoor warehousing or other nonintrusive uses will be recommended within identified buffer areas. Small existing lots which are zoned for industrial use may be exempt from this requirement if it can be shown that, due to limited lot size, buffers	Consistent with the implementation of Mitigation Measures 4.9-1 through 4.9-3.	If noise impacts are above the levels in the WE Combining District, noise levels caused by the AEWP would be mitigated by one of several methods for those sites that are near noise-sensitive land uses per Mitigation Measure 4.9-1 through 4.9-3 within Section 4.9 (Noise).

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
may not be viable.		
Chapter 4. Conservation Element		
Goal Promote conservation of vegetation and wildlife.	Consistent with implementation of mitigation measures for biological resources from Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources).	As discussed in Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources), during construction, impacts to sensitive species would be mitigated to a less-than-significant level. During operation, impacts to biological resources could largely be reduced to a less-than-significant level with mitigation. However, during operation, impacts to certain sensitive avian species are uncertain and, therefore, considered potentially significant and unavoidable. The AEWP would include post-construction biological monitoring and evaluation to assess impacts (the mortality of the affected species) associated with AEWP operations. If post-construction monitoring shows low levels of mortality and no endangered species killed, no further mitigation would be required. If post-construction monitoring shows significant impacts, the County would conduct additional environmental review in conjunction with the applicant and appropriate resources agencies and supplemental mitigation would be implemented. Although the AEWP could result in significant and unavoidable impacts to avian species, it would be developed and operated in accordance with State and federal laws.
Goal. Designate and control mineral extraction areas	Consistent	Development of the AEWP would temporarily preclude access to potential sand and gravel resources over the 30-year life of the AEWP. However, preclusion of access to this locally important resource would be temporary and would not result in permanent loss.
Goal Promote improvement of air quality.	Consistent with implementation of Mitigation Measures 4.2-1 and 4.2-3.	The AEWP would result in PM10 emissions during construction and operation; however, mitigation is proposed to reduce the effects (see MMs 4.2-1 and 4.2-3). The AEWP itself, once running, would help to reduce regional PM emissions by offsetting an equivalent amount of electrical power that would otherwise be generated by burning fossil fuel.
Policy 4.4.1. Utilize the Resource Reserve (8.2) and Resource Management (8.5) Map Codes (as defined in Table 3-2), as well as the Cluster (CL) Combining District, to reduce the impact of development on important ecological and biological resources.	Consistent	Large portions of the AEWP in unincorporated Kern County would be largely located on Resource Management (8.5) Map Codes.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 4.4.2. Develop active open space uses in an ecologically sensitive manner.	Consistent with implementation of mitigation measures for biological resources from Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources).	As discussed in Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources), during construction, impacts to sensitive species would be mitigated to a less-than-significant level. During operation, impacts to biological resources could largely be reduced to a less-than-significant level with mitigation. However, during operation, impacts to certain sensitive avian species are uncertain and, therefore, considered potentially significant and unavoidable. The AEWP would include post-construction biological monitoring and evaluation to assess impacts (the mortality of the affected species) associated with AEWP operations. If post-construction monitoring shows low levels of mortality and no endangered species killed, no further mitigation would be required. If post-construction monitoring shows significant impacts, the County would conduct additional environmental review in conjunction with the applicant and appropriate resources agencies and supplemental mitigation would be implemented. Although the AEWP could result in significant and unavoidable impacts to avian species, it would be developed and operated in accordance with State and federal laws.
Policy 4.4.3. For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. Alternatively, a project applicant may demonstrate urbanized, nonsensitive status through the identification of applicable studies.	Consistent with implementation of mitigation measures for biological resources from Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources).	As discussed in Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources), biological surveys shall be conducted under the implementation of mitigation measures from Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources).
Policy 4.4.4. Encourage the preservation of Joshua trees, Joshua tree woodlands, known wildflower displays or other biologically sensitive flora determined during biological surveys.	Consistent with implementation of mitigation measures for biological resources from Section 4.17 (Vegetation Resources).	As described in Section 4.17 (Vegetation Resources), implementation of mitigation measures requires that AEWP construction avoid, restore, and compensate for the loss of sensitive plant species and prepare and implement a Joshua tree preservation plan. With the implementation of mitigation measures, any impacts associated with the loss of sensitive plant species or Joshua Trees would be less than significant.
Policy 4.6.1. Cooperate with the Kern County Air Pollution Control District to implement the Air Quality Attainment Plan.	Consistent	This Proposed PA, Final EIS/EIR serves to comply with this policy. See Section 4.2 (Air Resources).

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 4.6.2. Continue to enforce the Kern County grading ordinance through Engineering and Survey Services (ESS), along with dust control and other rules and measures through the Air Pollution Control District to mitigate air quality effects during the construction of new development.	Consistent with implementation of Mitigation Measures 4.2-1 and 4.2-3.	The AEWP would result in PM10 emissions during construction and operation; however, mitigation is proposed to reduce the effects (see MMs 4.2-1 and 4.2-3). The AEWP itself, once running, would help to reduce regional PM emissions by offsetting an equivalent amount of electrical power that would otherwise be generated by burning fossil fuel.
Chapter 5. Open Space Element		
Goal Ensure compatibility between development and large areas of Resource Management designated land.	Consistent	The proposed transmission line would traverse 0.5 mile of Resource Reserve (8.2) and one mile of Resource Management (8.5) under the Mojave Specific Plan. The transmission line route would travel adjacent to and/or cross several other proposed and constructed wind projects, including the Alta–Oak Creek Mojave Project, the Alta Infill Project, and the Alta Infill II Project. The transmission line would run along a portion of the Alta Infill II Project alignment and would be located in or parallel to existing transmission line corridors. Therefore, the transmission line would be compatible with the surrounding development
Chapter 6. Circulation Element		
Goal Provide for adequate circulation to support future growth.	Consistent	As discussed in Section 4.16 (Transportation and Public Access), all new access roads associated with the AEWP would be private roadway and construction and operational traffic would not adversely impact existing capacities or service levels on public roadways. Therefore, the AEWP would not adversely impact public roadways.
Goal Plan for the growth and success of the SR-58 Business Route.	Consistent with the implementation of Mitigation Measures 4.16-1 through 4.16-3.	As discussed in Section 4.16 (Transportation and Public Access), Mitigation Measures 4.16-1 through 4.16-3 would ensure all Kern County roadways operate at LOS D or better.
Policy 6.1.1. Provide and maintain a circulation system that supports the types and intensities of land use in Mojave.	Consistent	As discussed in Section 4.16 (Transportation and Public Access), all new access roads associated with the AEWP would be private roadway and construction and operational traffic would not adversely impact existing capacities or service levels on public roadways. Therefore, the AEWP would not adversely impact public roadways.
Policy 6.1.4. With the exception of State highways, all roadways and rights-of-way shall be constructed to Kern County Development Standards. State highways shall be constructed to Caltrans standards.	Consistent with implementation of Mitigation Measure 4.16-4.	As described in Section 4.16 (Transportation and Public Access), Mitigation Measure 4.16-2 requires the Project Proponent to obtain Kern County approval of all proposed access road design prior to construction. Implementation of this measure would ensure that the AEWP would be consistent with this plan recommendation.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Chapter 7. Housing and Community Development Element		
Chapter 8. Noise Element		
Goal Evaluate transportation-related noise. **Goal** Evaluate noise during land use planning efforts.	Consistent	This Proposed PA, Final EIS/EIR serves to comply with this policy. See Section 4.9 (Noise).
Policy 8.1.1. Reduce transportation-related noise impacts on sensitive land uses (as defined in the Kern County Noise Element) through the use of noise control measures. **Policy 8.1.3.** Identify potential impacts from transportation noise during the planning stages of the development process. Mitigation measures (such as buffering, clustering or sound walls) shall be used as needed to meet County Noise Element and/or Airport Land Use Compatibility Plan standards.	Consistent with implementation of Mitigation Measures 4.9-1 through 4.9-3.	Mitigation Measures 4.9-1 through 4.9-3 listed in Section 4.9 (Noise) include the best available methods of transportation-related noise control, which as analyzed would be limited to construction activities.
Chapter 9. Seismic and Safety Element		
Goal Protect structures from potential damage caused by earthquakes.	Consistent with implementation of Mitigation Measure 4.14-1.	As described in Section 4.14 (Geology and Soil Resources), Mitigation Measure 4.14-1 requires the applicant to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site. In addition, Mitigation Measure 4.14-1 requires the applicant to determine the final siting of AEWP facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. Therefore, potential impacts would be mitigated to a less-than-significant level.
Goal. Promote awareness of potential flood and geologic hazards.	Consistent	Development of the AEWP would occur on physically and environmentally constrained areas. However, incorporation of the WE Combining District and FP Combining District would regulate development and require compliance with standards in hazardous areas, and would therefore minimize potential damage from natural disasters.
Goal Ensure that new development does not create a burden on adequate levels of fire and law enforcement services.	Consistent with implementation of Mitigation Measures 4.20-1 through 4.20-3.	As discussed in Section 4.13 (Social and Economic Issues), the AEWP would not adversely impact existing population levels of Kern County, which could directly impact existing public service capacities or response times thus requiring additional facilities or expansion of existing facilities. Furthermore, as discussed in Section 4.20 (Wildland Fire Ecology), the implementation of Mitigation Measures 4.20-1 through 4.20-3 would ensure no adverse impacts occur to existing fire protection services.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 9.1.1 (A 1, A 3, M 2). Safety measures required by the Uniform Building Code and the Kern County Seismic Safety Element during construction of new buildings are hereby incorporated by reference.	Consistent with implementation of Mitigation Measure 4.14-1.	As described in Section 4.14 (Geology and Soil Resources), Mitigation Measure 4.14-1 requires the Project Proponent to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site for review and approval by Kern County. In addition, Mitigation Measure 4.14-1 requires the applicant to determine the final siting of AEWP facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. Therefore, potential impacts would be mitigated to a less-than-significant level.
Policy 9.2.1 (A 1, A 3, M 1, M 3). Require new construction within a special flood hazard area, as specified on Flood Insurance Rate Maps (FIRMs) (shown on the Physical Constraints Overlay Map in this Plan), to conform to the Kern County Floodplain Management Ordinance.	Consistent with implementation of Mitigation Measure 4.14-1.	As described in Section 4.14 (Geology and Soil Resources), Mitigation Measure 4.14-1 requires the Project Proponent to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site including potential for wind erosion, water erosion, sedimentation, and flooding.
Policy 9.2.3 (M-3). Investigate and mitigate flood hazards, or locate development away from such hazards, to preserve life and protect property.	Consistent with implementation of Mitigation Measure 4.14-1.	As described in Section 4.14 (Geology and Soils Resources), Mitigation Measure 4.14-1 requires the Project Proponent to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site including potential for wind erosion, water erosion, sedimentation, and flooding.
Policy 9.2.4 (K-1). Protect drainage channels located within the Specific Plan area from development with the use of drainage easements.	Consistent	As described in Section 4.19 (Water Resources), the AEWP would not substantially alter the existing drainage pattern on the AEWP site. Therefore, the AEWP would be consistent with this policy.
Policy 9.2.5 (C-5). Maintain open areas needed to retain stormwater and prevent flooding in developed areas.	Consistent	As described in Section 4.19 (Water Resources), the AEWP area is drained by natural stream channels (ephemeral drainages) and does not rely on constructed stormwater drainage systems. The AEWP would not exceed stormwater drainage system capacity.
Policy 9.2.6 (C 5, E 1). Require flood studies as part of discretionary permit application and site plan review within flood hazard overly areas (as identified on the Physical Constraints Map) and as required by the Kern County Engineering and Survey Services Department.	Consistent with implementation of Mitigation Measure 4.14-1.	As described in Section 4.19 (Water Resources), Mitigation Measure 4.14-1 requires the Project Proponent to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site including potential for wind erosion, water erosion, sedimentation, and flooding.
Policy 9.3.1 (M-5, M-7). Encourage all generators and processors of hazardous waste to develop long-term waste management programs in compliance with the Kern County General Plan.	Consistent	As discussed in Section 4.11 (Public Health and Safety), the AEWP would be consistent with safety-related plans and policies related to the use, storage, and transportation of hazardous materials and waste.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Policy 9.3.2 (M-5, M-7). Ensure that hazardous materials used in business and industry are properly handled, and that information on their handling and use is available to fire protection and other safety agencies in accordance with the Fire Code.	Consistent	As discussed in Section 4.11 (Public Health and Safety), the AEWP would be consistent with safety-related plans and policies related to the use, storage, and transportation of hazardous materials and waste.
Policy 9.3.3 (B-4, C-5, G-3). Ensure that development projects are consistent and compatible with the Kern County Airport Land Use Compatibility Plan and Mojave Specific Plan.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
Policy 9.4.3 (F-2). Ensure that street widths and clearance areas are sufficient to accommodate fire protection and emergency vehicles during land division review and site plan review.	Consistent with implementation of Mitigation Measures 4.11-5, 4.16-1, and 4.16-3	As discussed in Section 4.11 (Public Health and Safety), implementation of Mitigation Measure 4.11-5 would require the Proponent to appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the AEWP site and ensure access for emergency vehicles to the AEWP site. Additionally, as discussed in Section 4.16 (Transportation and Public Access), Mitigation Measure 4.16-1 requires the Project Proponent to prepare a Construction Traffic Control Plan, which would address and ensure emergency access vehicle movement to the site. As described in Section 4.16 (Transportation and Public Access), Mitigation Measure 4.16-3 requires the Project Proponent to obtain Kern County approval of all proposed access road design prior to construction. Implementation of this measure would ensure that the AEWP would be consistent with this plan recommendation.
Policy 9.4.5 (L 1). Continue to enforce the Kern County Health, Fire and Building standards for new development and rehabilitation of existing structures.	Consistent with implementation of Mitigation Measures 4.20-1 through 4.20-3.	Development of the AEWP would occur on physically and environmentally constrained areas. However, incorporation of the WE Combining District would regulate development and require compliance with standards in hazardous areas, and would therefore minimize potential damage from natural disasters. Furthermore, as discussed in Section 4.20 (Wildland Fire Ecology), the implementation of Mitigation Measures 4.20-1 through 4.20-3 would ensure no adverse impacts occur to existing fire protection services.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Chapter 10. Implementation		
B-4 Airport. The County will continue to enforce airport safety, height, and obstruction clearance criteria set forth in Federal Aviation Regulations, Part 77 (FAR Part 77) and implemented through the Airport Land Use Compatibility Plan. The County will review development applications in areas surrounding the Airport to ensure consistency of such uses with the Airport Land Use Compatibility Plan (ALUCP). **C-5 Land Use, the Mojave Airport, and Military Airspace.** Review development proposals within the Mojave Specific Plan area to ensure consistency with the Kern County Airport Land Use Compatibility Plan.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
C-6 Biological Resources. Implement the following measures to preserve biological resources in developing portions of the Specific Plan Area: a) Require a biological survey to be conducted in nonurbanized sensitive areas (not developed, not previously developed, or not previously mitigated) with potentially significant biological resources. b) For development projects that are located outside the identified urbanized nonsensitive area (Figure 4-2) for biological resources, a biological survey shall be conducted. A qualified biologist shall be consulted to conduct protocol surveys and evaluations of rare, threatened, or endangered species. Sensitive species may also be considered during surveys. If rare, threatened, or endangered species are found during the surveys, the biologist will consult with the California Department of Fish and Game, the US Fish and Wildlife Service, or other	Consistent with implementation of mitigation measures for biological resources from Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources).	As described in Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources), these measures have been incorporated into the Proposed PA, Final EIS/EIR mitigation measures.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
agencies and jurisdictions with authority to implement and enforce requirements of the California or US Endangered Species Acts, prior to ground disturbance. Determination of significant impact from the biologist shall include recommendations of mitigation measures to preserve or protect habitat and to otherwise ensure protection of identified species. Copies of all surveys, evaluations, and biological reports, issued as a result of said consultation shall be submitted to the Planning Department.		
c) All development within the area identified as the urbanized nonsensitive area (Figure 4-2) for biological resources shall have the following measures applied to discretionary approvals and implementation of the plan and amendments to the plan, zone changes, conditional use permits and land divisions.		
1. Unleashed dogs shall not be allowed on the project site during construction.		
2. All trash is to be contained on site in covered containers. The work site is to be cleared daily of garbage and debris related to food.		
3. Vegetation should not be removed ahead of issuance of a grading permit or development.		
4. When appropriate, on-site vegetation, including Joshua trees, should be incorporated into project design rather than removed.		
5. Construction personnel shall receive education on proper protocol, as formulated by the U.S. Fish and Wildlife Service, if a desert tortoise is discovered on site.		

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
G-2 Noise Attenuation Measures. Noise attenuation measures (such as setbacks, clustering, berming, and sound walls) shall be required as conditions of project approval prior to or as part of construction in areas subject to excessive noise. Examples of cases that may require such attenuation measures include: a) Commercial and residential development where noise levels exceed adopted standards in the Kern County Noise Element. b) Residential and other sensitive uses with direct exposure to highway activities and/or railroad noise. c) Between residential land uses and commercial or industrial land uses.	Consistent with the implementation of Mitigation Measures 4.9-2 through 4.9-3.	If noise impacts are above the levels in the WE Combining District, noise levels caused by the AEWP would be mitigated by one of several methods for those sites that are near noise-sensitive land uses per Mitigation Measure 4.9-2 through 4.9-3 within Section 4.9 (Noise).
G-3 Airport-Related Noise and Safety. Implement the following measures to reduce the impact of airport-related noise and safety issues on development in surrounding areas: a) All discretionary development proposals shall be reviewed for compatibility with the adopted Airport Land Use Compatibility Plan. Appropriate limitations and conditions shall be incorporated to address compatibility with the Mojave Airport and encroachment issues for the Edwards Air Force Base, Naval Air Weapons Station China Lake, and the Military Complex Airspace. Incompatible uses shall not be permitted unless appropriate findings regarding public health, safety, and military readiness can be made.	Consistent with the implementation of Mitigation Measures 4.11-7, 4.9-2 through 4.9-3.	If noise impacts are above the levels in the WE Combining District, noise levels caused by the AEWP would be mitigated by one of several methods for those sites that are near noise-sensitive land uses per Mitigation Measure 4.9-2 through 4.9-3 within Section 4.9 (Noise). Additionally, as discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
H-4 Historical and Cultural Resources. Preserve historical and cultural resources by implementing these programs: a) Encourage local groups and schools to enhance and promote historical resources and community activities for all residents within the Specific Plan area. b) Prior to discretionary development of any individual project within the Specific Plan area, a complete records and literature search and/or a Phase 1 Assessment shall be conducted to identify the presence of any specific cultural resources and/or Native American sacred lands at the project site. Recommendations shall be incorporated into project approval.	Consistent with implementation of cultural resources mitigation measures from Section 4.4 (Cultural Resources).	Section 4.4 (Cultural Resources) includes records and literature search, describe the cultural resource in the AEWP site and area, and contain mitigation measures that minimize impacts to cultural resources.
L-2 Fire and Police Protection. Implement the following measures to ensure adequate fire and police protection in the Mojave community: a) Work with the Kern County Sheriff's Department and Kern County Fire Department to ensure the continuation of an adequate level of services for the Specific Plan Area. b) If additional Fire Department or Sheriff station sites are required, identify sites and require dedication of land for such purposes or payment of proportional share of services as a condition of development. c) Work with local organizations and the County Sheriff and Fire Department to continue administration of the Mojave Desert Community Response Plan.	Consistent with implementation of Mitigation Measures 4.20-1 through 4.20-3.	As discussed in Section 4.13 (Social and Economic Issues), the AEWP would not adversely impact existing population levels of Kern County, which could directly impact existing public service capacities or response times thus requiring additional facilities or expansion of existing facilities. Furthermore, as discussed in Section 4.20 (Wildland Fire Ecology), the implementation of Mitigation Measures 4.20-1 through 4.20-3 would ensure no adverse impacts occur to existing fire protection services.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
K-1. Storm Drains / Drainage Plan – Implement the following measures to ensure adequate provision of storm drains in the Plan area: a) Require preparation of a drainage plan to retain drainage on site in accordance with the County Drainage Ordinance as a condition of approval of any land division, conditional use permit (CUP), or site plan review. The drainage plan shall be prepared by the applicant and submitted to the Kern County Floodplain Management Section of the Department of Engineering and Survey Services for review and approval prior to development. b) Drainage plans must conform to County Standards and to all other applicable requirements of Kern County. c) Ensure that an easement, at the applicant's cost, is placed on all drainage channels as defined by the Engineering and Survey Services Department.	Consistency to be determined.	Final AEWP design would be in conformance with the Kern County Development Standards and Grading Ordinance. This would be confirmed during plot plan review by the Planning Department.
K-2. Water Supplies – Implement the following measures to ensure adequate water supplies are available to support urban development in Mojave: c) Any application for development (residential, commercial, public, industrial) will be required to show available utilities and public services from the service providers as well as how the development will provide for the infrastructure in proportion to individual projects. d) The drilling of private wells shall be discouraged within the Mojave Specific Plan area. If a project is proposed which includes a private water system with five or more connections, a water supply assessment must	Consistent.	Sufficient water supplies are available for the AEWP, as discussed in Section 4.19 (Water Resources). The AEWP would be in conformance with K-2.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
be prepared. e) Discretionary projects that implement the plan (zone changes, land division, and conditional use permit) subject to CEQA, to which California Water Code Section 10910 applies, shall demonstrate through a water supply assessment that a long-term water supply for a 20-year time frame is available. Written acknowledgment that water will be provided by a community or public water system with an adopted urban water management plan that includes consideration of the project's projected water consumption and supply shall constitute compliance with this requirement		
K-3. Water Quality – Implement the following measures to achieve water quality objectives and policies in the Mojave Specific Plan area: b) Examples of BMPs include: schedule excavation and grading work for dry weather, covering stockpiles and excavated soil with tarps or plastic sheeting, sweeping up dry spilled materials immediately, and never hosing down dirty pavement or impermeable surfaces where fluids have spilled. c) Require all discretionary projects with a proposed septic system to conduct a soils analysis to determine if the soils are suitable for such systems.	Consistent with implementation of water quality mitigation measures from Section 4.19 (Water Resources)	The AEWP would implement Mitigation Measures 4.19-1, 4.19-2, and 4.19-3 which address water quality through compliance with water quality permits, installation of pervious groundcover, erosion protection, and SWPPP specifications. The AEWP is in compliance with K-3.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
K-4. Water Conservation – Implement the following measures to achieve water conservation objectives and policies in the Mojave Specific Plan area: d) All development projects within the Specific Plan area should incorporate water conservation measures including water reclamation, recycling, and xeriscape landscaping and other methods into all development plans to meet the provisions of the Mojave Specific Plan goals and policies, and to ensure an adequate water supply in the future.	Consistent.	The AEWP's primary water demand would be temporary, during the construction period, and as discussed for K-1, sufficient water is available to meet the AEWP's water supply requirements. The AEWP is consistent with K-4.
K-5. Other Utilities (including electric, natural gas, and telecommunication systems) – Require the applicant to demonstrate that electric, natural gas and telecommunication services can be provided prior to the approval of any final land division, Precise Development Plan, or conditional use permit (CUP).	Consistency to be determined.	This would be confirmed during plot plan review by the Planning Department.
K-6. County Infrastructure – Ensure adequate county infrastructure through the following measures: d) Secure complete and accurate information on all hazardous wastes generated, handled, stored, treated, transported, and disposed of within or through Kern County. e) Reduce to the greatest degree possible the amount of hazardous waste to be disposed of by encouraging private industry to construct and manage a high quality system of transfer stations, recycling facilities, treatment plants and incinerators located near the generators of hazardous waste	Consistent	As discussed in Section 4.11 (Public Health and Safety), the AWEP would be consistent with safety-related plans and policies related to the use, storage, and transportation of hazardous materials and waste.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
K-7. Soil Erosion – Implement National Pollutant Discharge and Elimination System (NPDES) permit requirements during construction to minimize erosion. Examples of BMPs include: schedule excavation and grading work for dry weather, covering stockpiles and excavated soil with tarps or plastic sheeting, sweeping up dry spilled materials immediately, and never hosing down dirty pavement or impermeable surfaces where fluids have spilled.	Consistent	The AEWP would be required to implement a SWPPP, which would include site-specific Best Management Practices (BMPs) for erosion and sediment control for the AEWP, which would reduce impacts to a less-than-significant level.
M-1 Physical Constraints Overlay Map. Utilize the physical constraints designations identified on the Mojave Specific Plan Physical Constraints Map (Figure 9-1) to identify properties with physical constraints including: 1) seismic hazard, 2) landslides, 3) steep slopes, and 4) flood hazards.	Consistent with implementation of Mitigation Measure 4.14-1.	As described in Section 4.14 (Geology and Soil Resources), Mitigation Measure 4.14-1 requires the Project Proponent to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site including potential for wind erosion, water erosion, sedimentation, and flooding. Therefore, potential impacts would be mitigated to a less-than-significant level.
M-2 Seismic Safety. Implement the following measures to promote seismic safety in the Mojave Specific Plan Area: a) Require geotechnical engineering studies for development proposals on properties identified as subject to liquefaction or landslides, as identified on the Mojave Specific Plan Physical Constraints Map (Figure 9-1). b) Review all development proposals in seismically hazardous areas (as identified on seismic hazard atlas or Alquist-Priolo maps) to consider the design and intensity of the proposed use in relation to potential seismic risk. c) Continue to participate in State-sponsored earthquake preparedness programs. d) Work with property owners to implement seismic safety improvements in older buildings. These measures may include	Consistent with implementation of Mitigation Measure 4.14-1.	As shown in Figure 2-5, the AEWP site, as well as the AEWP transmission line ROW, includes areas on Kern County lands that are designated Map Code 2.4 (Steep Slope). The following describes the AEWP's consistency with this constraint: **Steep Slopes:** The Kern County General Plan defines a steep slope as land with an average slope of 30 percent or steeper. Portions of the AEWP site include areas with steep slopes; however, the WE Combining District prohibits construction on any slopes steeper than four to one (4:1), or 25 percent, unless mitigation is provided. As described in Section 4.11 (Public Health and Safety), prior to the issuance of building or grading permits, Mitigation Measure 4.14-1 requires the applicant to conduct a full geotechnical study to evaluate soil conditions and geologic hazards on the AEWP site, which includes the potential for seismically induced ground shaking, liquefaction, landslides, differential settlement, and mudflows. The Project Proponent must submit the report to the Kern County Department of Building and Safety for review and approval. In addition, Mitigation Measure 4.14-1 requires the Project Proponent to determine the final siting of AEWP facilities based on the results of the geotechnical study and implement recommended measures to minimize geologic hazards. Therefore, potential impacts would be mitigated to a less-than-significant level.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
anchoring buildings to foundations and bolting water heaters to walls. e) Continue to inform residents and business owners about seismic risks in the Mojave area and what individuals can do to help minimize impacts from earthquakes.		
M-3 Flood Hazards. Implement the following measures to mitigate potential flood hazards in the Mojave Specific Plan Area: a) New construction located within the flood hazard zones shall conform to the Kern County Flood Hazard Protection Ordinance. b) Require new discretionary development within the Map Code 2.5 (Flood Hazard) areas shown on the Mojave Specific Plan Physical Constraints Map (Figure 9-1) to conduct a flood hazard study, and require the floodplain constraints with all zone changes.	Consistent with implementation of Mitigation Measure 4.14-1.	As shown in Figure 2-5, the AEWP site, as well as the AEWP transmission line ROW, includes areas on Kern County lands that are designated Map Code Map Code 2.5 (Flood Hazard). The following describes the AEWP's consistency with this constraint: **Flood Hazard:** As a portion of the AEWP site on Kern County lands are located within this zone. Construction activities which occur within areas of special flood hazards, areas of flood-related erosion hazards, and areas of mudslide (i.e., mudflow) hazards within the jurisdiction of unincorporated Kern County would comply with the requirements and construction design specifications of the Kern County Grading Code and Floodplain Management Ordinance. Construction and operation activities associated with the AEWP are not expected to impede or redirect flood flows within identified Flood Hazard Areas. Therefore, the AEWP would not result new or substantially more adverse impacts related to flood hazards beyond that described in the Section 3.19 (Water Resources).
M-7 Transport of Hazardous Wastes. Require that transporters of hazardous waste travel on designated Commercial Hazardous Waste Shipping Routes as identified in the Kern County General Plan Circulation Element.	Consistent	As discussed in Section 4.11 (Public Health and Safety), the AEWP would be consistent with safety-related plans and policies related to the use, storage, and transportation of hazardous materials and waste.
N-2 Development Review for Air Quality Impacts. Implement the following measures associated with air pollution emissions from new developments in the Specific Plan area: a) Evaluate proposals for discretionary projects to ensure that the project complies with air quality standards. b) Air Quality studies will be required for industrial zone changes and conditional use permit projects which may emit affected pollutants, or toxic air contaminants. Prior to the approval of any industrial zone changes	Consistent with implementation of mitigation measures for air quality from Section 4.2 (Air Resources).	As described in Section 4.2 (Air Resources), where appropriate, these measures have been incorporated into the Proposed PA, Final EIS/EIR mitigation measures.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
and/or conditional use permits, a level of impact determination shall be made, at which time the appropriate air quality analysis will be conducted.		
c) The following measures shall be incorporated into all development projects, as applicable, that implement the plan. Verification of these measures shall occur during development review and building inspection:		
1) Solar or low emission water heaters shall be utilized in all residential and commercial projects to reduce natural gas consumption and emissions. All restaurants with charbroilers shall have PM10/ROG emission control systems.		
2) Review for commercial and industrial development involving heavy duty truck usage shall review and verify the parking lot circulation for reduced vehicle queuing. This review will include consideration of entrance/exit driveways and ease of turning movements, as well as whether a proposed warehousing or industrial use contains parking spaces for heavy duty trucks to layover overnight.		
3) The applicant for development of commercial and industrial development involving heavy duty truck usage shall limit engine idling times to no more than 10 minutes at the project site by posting signs instructing drivers to turn off engines as they park at loading/unloading docks. Overnight truck parking areas shall be no idling zones and shall be equipped with plug-in power supplies.		
4) Development, including industrial, shall provide sidewalks and on-site pedestrian		

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
facilities to encourage nonvehicular employee, customer, and resident trips. 5) The Planning Department shall review and verify the site circulation for reduced vehicle queuing at restaurant drive-through locations. This review will consider the use of separate windows for different functions and the provision of temporary parking for orders not immediately ready for pickup. d) The Kern County Air Pollution Control District maintains Permit to Operate requirements that direct owners/operators of certain types of stationary equipment to obtain an Authority to Construct (ATC) from the District. As part of this process, the need for emission control equipment is assessed and the Kern County Air Pollution Control District determines whether a Human Health Risk Assessment must be prepared. Future uses subject to the requirements for a health risk assessment are typically those using substances subject to the National Emission Standards for Hazardous Air Pollutants issued pursuant to Section 112 of the federal Clean Air Act (42 U.S. Code, 7401, et seq.) and Sections 44340 to 44383 of the California Health and Safety Code. Risks must be reduced such that facilities do not emit carcinogenic or toxic air contaminants that could indirectly or cumulatively exceed individual cancer risk thresholds established by the Kern County Air Pollution Control District.		

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
N-4 Construction Measures. Require that construction of new development projects comply with the County Grading Ordinance and all adopted applicable dust control measures of the Kern County Air Pollution Control District (KCAPCD).	Consistent with implementation of mitigation measures for air quality from Section 4.2 (Air Resources).	As described in Section 4.2 (Air Resources), where appropriate, these measures have been incorporated into the Proposed PA, Final EIS/EIR mitigation measures.
N-6 Dust Control. The following measures shall be incorporated into all development projects, as applicable, that implement the plan. Verification of these measures shall occur during site plan review and building inspection: a) During grading operations, the developer shall be responsible for the application of water to development sites at least twice daily to mitigate the impact of dust and PM10 emissions. Spraying should be sufficient to ensure that soils remain damp, with the frequency of spraying dependent on weather conditions. Graded areas that are to be left undeveloped or unpaved for more than six weeks are to be sufficiently dust controlled through use of an applied surface agent, daily watering, or revegetated. b) During grading operations, all activity should be restricted to periods of low wind, generally considered under 25 miles per hour, to reduce dust emissions. c) Construction speed limits will be posted at 15 miles per hour. Preparation of roadway surfaces in a phased manner (where segments of the route are graded in succession) will greatly minimize the amount of time the surfaces are left exposed, thereby reducing vehicle-related dust emissions.	Consistent with implementation of mitigation measures for air quality from Section 4.2 (Air Resources).	As described in Section 4.2 (Air Resources), where appropriate, these measures have been incorporated into the Proposed PA, Final EIS/EIR mitigation measures.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
AIRPORT LAND USE COMPATIBILITY PLAN		
Section 1.7.1(c). Prior to the approval of a proposal involving any type of land use development, as stated in Section 1.6.1, or other review as required by a Specific Plan, specific findings shall be made that such development is compatible with the training and operational missions of the military aviation installations. Incompatible land uses that result in significant impacts on the military mission of Department of Defense installations or to the Joint Service Restricted R-2508 Complex that cannot be mitigated, shall not be considered consistent with this plan.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
3.3 Airspace Protection 3.3.1 Height Limits. The criteria for limiting the height of structures, trees, and other objects in the vicinity of an airport shall be set in accordance with Part 77, Subpart C, of the Federal Aviation Regulations and with the United States Standard for terminal Instrument Procedures (TERPS).		
3.3.4 FAA Notification Proponents of a project which may exceed a Part 77 surface must notify the Federal Aviation Administration as required by FAR Part 77, Subpart B, and by the California state Public Utilities Code Sections 21658 and 21659. (Notification to the Federal Aviation Administration under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the regulations. Refer to Appendix A for the specific Federal Aviation Administration notification requirements.) a. Local jurisdictions shall inform project	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
proponents of the requirements for notification to the Federal Aviation Administration. b. The requirement for notification to the Federal Aviation Administration shall not necessarily trigger an airport compatibility review of an individual project by the local agency (county or city) if the project is otherwise in conformance with the compatibility criteria established herein.		
3.3.5 Other Flight Hazards Land use characteristics which may produce hazards to aircraft in flight shall not be permitted within any airport's influence area. Specific characteristics to be avoided include: a. Glare, distracting lights. or light patterns which could be mistaken for airport lights; b. Sources of dust, steam, or smoke which may impair pilot visibility; c. Sources of electrical interference with aircraft communications or navigation; and d. Any use, especially landfills and certain agricultural uses, which may attract large flocks of birds. e. Any light or series of lights which may cause visual discomfort or loss of orientation during critical phases of flight.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
Section 4 Individual Airports: Policies, Compatibility Map and Background Data- 4.16 Military Aviation		
4.16.2 Encroachment Because of the extreme flying capabilities and needs of military aircraft, military officials have concerns about land development that compromises the mission of the installations. The concern for encroachments on military aviation involves balancing the need to preserve the present and future flight operation capabilities to meet mission	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
requirements with the public health, safety, quality of life and economic stability of neighboring communities. The following are identified areas to be reviewed for compatibility issues: 3. Towers - Obstructions such as cellular towers, radio towers. television towers and wind turbines that penetrate into airspace become a hazard to flight safety. Concentrated numbers of such structures can result in the loss of a route as useable for testing and training operations.		of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
4.16.3 Notification. China Lake Naval Air Weapons Station (NAWS) and Edwards Air Force Base (AFB) both shall be notified of development that falls within any of the following categories: ☐ Any structure within 75 miles of the R-2508 complex that is greater than 50 feet tall. ☐ Any project within 50 miles of R-2508 that emit radio and communications frequencies. ☐ Any environmental document or discretionary project with 25 miles of the military installation boundaries. Any project that would create environmental impacts (e.g. visibility, elevated obstructions) within 25 miles of the R-2508 complex.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan.
KERN COUNTY ZONING ORDINANCE		
Chapter 7.16 – Estrays 7.16.010 Pursuant to the provisions of Section 17124 of the Food and Agriculture Code of the state of California, the board of supervisors of the county declares that those portions of the county described as parcels in alphabetical	Consistent with implementation of MM 4.7-1	Implementation of the AEWP would occur on lands that are within the County's Estray Ordinance, including Parcel B. Current zoning consists of 143.1 acres within the A-1 (Limited Agriculture) zone classification and 429.9 acres are within the E 20 (Estate 20 acres) zone classification. The proposed zone change would change the existing base zone classifications of A-1 and E 20 to A (Exclusive Agriculture), and the land could be utilized for other types of compatible agricultural uses. In addition, if perimeter fencing is chosen for the portion of site within County jurisdiction there would be limited

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
order in the next succeeding sections of this chapter are devoted chiefly to grazing. 7.16.060 Every person within the area described in Parcel B of this chapter owning or having charge, care, custody or control of any cow, bull, steer, horse, mule, jack, hinny, sheep or other stock, who willingly or knowingly permits the same to run at large in or upon any cultivated or improved land owned by any person other than the owner of such animals, unless the consent of the owner is first obtained, except upon a public highway under adequate supervision, is guilty of a misdemeanor. Animal control services for achieving the control of said animals, as provided by the county to enforce the provisions of this section, shall be charged to the owner or the person having charge, care, custody, or control of animals at large at the hourly rate as set forth in the fee schedule established by the board of supervisors.		access, which would discourage any stray animals from wandering onto the AEWP site. However, if individual or group fencing is implemented, MM 4.7-1 (refer to Section 4.7, Livestock Grazing) would also serve as a way to monitor the site for stray animals. Therefore, the AEWP would comply with the requirements of this ordinance
Limited Agriculture (A-1). The purpose of the A-1 District is to designate areas suitable for a combination of estate-type residential development, agricultural uses, and other compatible uses. Final map residential subdivisions are not allowed in the A-1 District. Permitted land uses in this District include agriculture, residential uses, commercial uses, utility and communication facilities, resource extraction, energy development, institutional uses, and miscellaneous accessory structures related to permitted uses.	Consistent with the incorporation of the WE Combining District	With the incorporation of the WE Combining District, the AEWP would be consistent with this zoning category.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Residential Suburban (RS) Combining District. The purpose of the RS District is to expand the number and type of permitted domestic agricultural uses within rural residential areas. The RS Combining District may be combined with the Estate (E) or Mobilehome Subdivision (MS) where the minimum lot size is one-half (1/2) net acre (21,780 square feet) or larger. The RS Combining District may also be combined with the Platted Lands (PL) District, provided that each lot contains a minimum of one-half (1/2) net acre. The uses allowed and regulations established by the RS District shall be in addition to regulations of the base district with which the RS District is combined. The keeping of animals permitted by the RS District is an accessory use and shall not be established until a primary use is established.	Consistent with the incorporation of the WE Combining District	With the incorporation of the WE Combining District, the AEWP would be consistent with this zoning category.
E-20 Estate (E) District. The purpose of the E District is to designate areas suitable for larger lot residential living environments. Uses are limited to those typical of and compatible with quiet residential neighborhoods. The minimum lot size shall be one-quarter (1/4) acre (10,890 square feet) unless the E District is combined with the Lot Size Combining District (Chapter 19.54 of this title) where a larger minimum lot size is specified. The minimum lot size may be reduced when any E District is combined with the Cluster (CL) Combining District (Chapter 19.58 of this title). Permitted land uses in this District include agriculture, residential uses, commercial uses, utility and communication facilities, resource extraction, energy development, institutional uses, and miscellaneous accessory structures related to	Consistent with the incorporation of the WE Combining District	With the incorporation of the WE Combining District, the AEWP would be consistent with this zoning category.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
permitted uses. Agricultural uses permitted in the E District are accessory uses and shall not be established until a primary use is established.		
M-3 Heavy Industrial District. The purpose of the Heavy Industrial (M-3) District is to designate areas suitable for heavy manufacturing and industrial uses which have the greatest potential for producing undesirable or adverse by-products, including traffic, noise, odors, dust, and vibrations. The M-3 District should be located in places substantially removed from residential areas.	Consistent with the incorporation of the WE Combining District	The transmission line traversing the M-3 District would be considered a permitted use with this zoning category.
Floodplain Secondary Combining (FPS) District The purpose of the Floodplain Secondary (FPS) Combining District is to protect the public health and safety and minimize property damage by designating areas that are subject to flooding with relatively low velocities or depths and by establishing reasonable restrictions on land use in such areas. The FPS District shall be applied to those areas lying within special flood hazard areas designated as Zones AO and AH, and Zone A1-A30 on the Flood Insurance Rate Maps (FIRM), but excluding the floodway on the Flood Boundary Floodway Maps (FBFM), the Designated Floodway on the State of California's Board of Reclamation's Kern River Designated Floodway Studies, or other maps where engineering studies have been made and adopted by the County Board of Supervisors. The regulations established by the FPS District shall be in addition to the regulations of the base district with which the FPS District is combined.	Consistent with the incorporation of the WE Combining District	With the incorporation of the WE Combining District, the AEWP would be consistent with this zoning category.

Table 4.6-2. Project Consistency with Local Land Use and Planning Regulations

Goals, Policies, and Recommendations	Consistency Determination	Project Consistency
Section 19.08.160. Height of Structures. A. Radio and television masts, communication towers, flagpoles, light standards, chimneys, and smokestacks, or any appurtenances thereof, may extend not more than forty-five feet (45) feet above the height limit specified in this chapter for buildings and structures, provided that the same may be safely erected and maintained at such height in view of the surrounding conditions and circumstances. A tower constructed for the purpose of supporting a wind-driven power generator may extend not more than forty-five (45) feet above the height limit specified in this chapter, provided that the same may be safely erected and maintained at such height in view of the surrounding conditions and circumstances.	Consistent with implementation of Mitigation Measure 4.11-7.	As discussed in Section 4.11 (Public Health and Safety), Mitigation Measure 4.11-7 would require the Project Proponent to submit documentation to the BLM and Kern County Planning Department a Determination of No Hazard to Air Navigation from the FAA of Form 7460-1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the BLM and Kern County Planning Department demonstrating that a copy of the approved form(s) has been provided to the DoD. Furthermore, as discussed in Section 4.11, in a letter dated August 4, 2011, the DoD stated it has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group that it has no objections. Therefore with implementation of the Mitigation Measure 4.11-7, the AEWP would be consistent with the Kern County Airport Land Use Compatibility Plan height restrictions.
B. Notwithstanding any other provisions in this title, within the area depicted in Figure 19.08.160, no zone modification or zone variance may be approve [sic], and not building permit may be issued where a zone modification of zone variance is not required, for any structure or building that exceeds the maximum permitted heights shown in Figure 19.08.160 unless the military authority responsible for operations in that flight area first provides the Planning Director with written concurrence that the height of the proposed structure or building would create no significant military mission impacts.		

4.7 Livestock Grazing

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on livestock grazing resources. Mitigation measures that would reduce impacts are also discussed. The applicable environmental and regulatory settings are discussed in Chapter 3.7.

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.1 Methodology for Analysis

The analysis of the effects of the AEWP must comply with NEPA requirements given the BLM land jurisdiction related to the proposed AEWP. This analysis focuses on whether the proposed AEWP would conflict with the management goals and activities on BLM-designated grazing allotments. Potential effects may occur from conflicts with the on-site grazing allotments, the Warren and Hansen Common Allotments. The following is the Project Proponent's intended plan for compliance with the standards and regulations set forth by the BLM for these allotments:

> The Allotment Management Status Categories set by the BLM for the Warren and Hansen Common Allotments identify no known resource conflicts involving use or resource conditions. Further, according to the BLM, if an energy developer leases grazing land for purposes which would preclude grazing; the BLM would initiate the two year notification process to the affected Rancher with the expectation that the land could be used for grazing in the future. Through the process of this Final EIS/EIR, and proper coordination with the BLM, the Project would comply with the development standards and requirements identified by the BLM for rangeland management areas. (CH2MHILL 2011f)

However, as part of the ROW grant, BLM may implement requirements in order to minimize interference with grazing activities, such as the suspension of grazing activities during the construction period or design standards. As such, the following analysis discusses the potential impacts associated with construction, operation and decommissioning, as well as any requirements that may be included in the ROW grant.

4.7.2 CEQA Thresholds of Significance and Criteria

Livestock grazing allotments are designated by the BLM's CDCA Plan; therefore, no CEQA significance criteria are defined for livestock grazing designations. For the purposes of CEQA, grazing is discussed in Section 4.15, *Special Designations and Agriculture*.

4.7.3 Alternative A: Project

4.7.3.1 Direct and Indirect Impacts

The following is the Project Proponent's intended plan for compliance with the standards and regulations set forth by the BLM for these allotments:

The Allotment Management Status Categories set by the BLM for the Warren and Hansen Common Allotments identify no known resource conflicts involving use or resource conditions. Further, according to the BLM, if an energy developer leases grazing land for purposes which would preclude grazing; the BLM would initiate the two-year notification process to the affected Rancher with the expectation that the land could be used for grazing in the future. Through the process of this Final EIS/EIR, and proper coordination with the BLM, the AEWP would comply with the development standards and requirements identified by the BLM for rangeland management areas (CH2MHILL 2011f).

Construction

According to the Standards for Rangeland Health and Guidelines for Livestock Grazing Management, there are instances where specific terms and conditions will be applied to grazing use authorizations for reasons other than those directly related to rangeland health, such as to accommodate other resource needs and land uses or to meet administrative requirements. Management changes will be considered and evaluated by the BLM through the NEPA process prior to making final determinations.

If reductions in permitted grazing are necessary, the animal unit months (AUM; the amount of forage needed to sustain one cow, five sheep, or five goats for one month) by which the permitted use is reduced will be held in suspension until the authorized officer determines that rangeland health has recovered and all or part of the suspended permitted use can be restored. Per correspondence with Sam Fitton at the BLM Ridgecrest field office, due to this suspension, the BLM has to give the rangeland "permittee" ample notice ("a couple years") that there may be a change in their grazing status as a result of energy projects.

As stated above, based on the Project Proponent's plan, it is implied that a two-year notification for removal of the allotment would be issued for the leased portion of the AEWP site within the Warren Allotment. Assuming that construction of the AEWP was to begin within this two-year period, construction activities within the boundaries of the Warren Allotment would include the installation of 19 wind turbine generators (WTGs) and access roads throughout the allotment. Construction activities are anticipated to commence in the spring of 2012 and require nine to 12 months to complete. The sequence of construction activities for the AEWP would generally be site preparation, access road installation, WTG foundation construction, electrical collection system installation, collector substation construction, WTG installation, final testing and turbine commissioning, and cleanup and restoration. This level of construction would preclude the use of the Warren Allotment for sheep grazing for the duration of construction which would extend through the life of the AEWP, and would result in the conversion of rangeland to a non-rangeland use. Construction of would also preclude the use of the portion of the Hansen Common Allotment within Section 28 of the AEWP site; and also may result in temporary indirect impacts which may include changes in the air quality due to the prevailing wind direction towards the east and northeast, and geologic conditions, i.e., erosion. In addition, the type of fencing that is used will also affect the grazing activities. Either perimeter fencing or the fencing of individual WTGs will be installed. Perimeter fencing would preclude grazing activities on the AEWP site; however, the fencing of individual, or groups of WTGs would allow of on-site grazing to continue.

However, in order to minimize interference with grazing activities, as part of the ROW grant, BLM may require a suspension of grazing activities during the construction period and upon

completion of construction grazing would resume within the designated grazing allotments. In addition, the ROW grant may also require the fencing of individual turbines in the portions of Section 28 that are within the Hansen Common Allotment, and the turbines within the Warren Allotment (all of Section 34). If construction takes longer than two years the Project Proponents may apply for an extension of the period of no grazing; and the request should state why an extension would be needed and give a reasonable estimate of the period of extra time that would be needed to complete construction.

Operation and Maintenance

As mentioned above under "Construction," Alternative A would preclude the on-site grazing under the Warren and Hansen Common Allotments, which would continue through the life of the AEWP, and would result in the conversion of rangeland to a non-rangeland use. However, in order to minimize this permanent disturbance to grazing activities, as part of the ROW grant, BLM may require a suspension of grazing activities during the construction period and upon completion of construction grazing would resume within the designated grazing allotments. The following is a discussion of the permanent disturbance that would be associated with this course of action for each of the allotments. As reported in Section 3.7, the Warren Allotment is 584 acres, and the permitted use for the Warren Allotment is 55 perennial AUM. The AEWP's WTGs and access roads within the Warren Allotment would result in a permanent disturbance of 12.7 acres (2.2 percent of the allotment). At 55 perennial AUMs, a 2.2 percent decrease would take 1.2 AUMs out of grazing and result in 53.8 AUMs for the Warren Allotment. In current conditions, with 55 AUMs (5 x 55 = 275 AUMs) a band of 800 sheep would use their allotted feed on the allotment in 10 days. As such, with approval of the AEWP, the permanent disturbance would reduce the available forage, thereby reducing the AUMs available for grazing. In addition, the WTGs and associated fencing would limit movement on the allotment.

The AEWP's WTGs and access roads would result in a permanent disturbance of 8.2 acres within the Hansen Common Allotment, which accounts for 0.01 percent of the 74,000-acre allotment. Similar to the Warren Allotment, the permanent disturbance would reduce the available forage, thereby reducing the AUMs available for grazing. However, considering the difference in the size of the allotments, this reduction would be considerably less of a disturbance and reduction to the Hansen Common Allotment in comparison to the Warren Allotment. However, continued cattle grazing activities on the Hansen Common Allotment would be more difficult to monitor cattle grazing than sheep grazing because there is no herder constantly monitoring the herd; therefore, finding and disposing of cattle carcasses would be more difficult. However, there is a smaller number of cattle to keep track of and deaths of cattle are a less common occurrence than among sheep.

With regard to the reduction of AUMs as a result of construction of permanent features on both the Warren and Hansen Allotments, the BLM does not believe that the AUMs potentially lost to permanent features is significant enough to warrant a change in the permits/leases of the livestock operators. The livestock operator on the Warren Allotment is permitted 55 AUMs, however, this does not measure the overall capacity of the allotment which is greater, therefore, 1.2 AUMs lost to permanent features is not significant with regard to overall capacity. On the Hansen Allotment the resulting loss to permanent features amounts to about 0.5 of an AUM which is undetectable.

In turn, grazing and management activities may interfere with routine operation and maintenance activities associated with the AEWP. Due to the proximity to condor habitat, the allotment's rancher is responsible for removing any carcasses of dead sheep in order to avoid attracting condors to the AEWP site. However, the Project Proponent would be responsible for designating an area for the burial of carcasses; and if Project personnel found carcasses they would be responsible for contacting the rancher directly or calling the BLM. Section 4.21 (Wildlife Resources) includes Mitigation Measure 4.21-5 (California Condor) which requires a full-time monitor to ensure immediate removal of carcasses on the AEWP site and requires designated areas for the burial of carcasses.

Decommissioning

As mentioned above under "Construction," the Alternative A would preclude the on-site grazing under the Warren and Hansen Common Allotments. Decommissioning activities would cause a temporary, indirect disturbance to users of the land, which would preclude grazing. However, upon completion of the decommissioning activities, the AEWP site would be available for grazing activities to resume. Therefore, impact would be less than significant

4.7.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. However, for the purposes of CEQA, impacts associated with grazing and agriculture are discussed in Section 4.15 (Special Designations and Agriculture).

4.7.4 Alternative B: Revised Site Layout

4.7.4.1 Direct and Indirect Impacts

In comparison to the AEWP, Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting of access roads. All other features associated with Alternative B would remain unchanged compared to that discussed above for the AEWP.

Construction

During construction of this alternative, potential impacts to livestock grazing would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts to livestock grazing would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts to livestock grazing would be the same as described under "Decommissioning" for Alternative A.

4.7.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.5 Alternative C: Reduced Project North

4.7.5.1 Direct and Indirect Impacts

Under Alternative C, all WTGs and ancillary facilities would remain identical to that of Alternative A. However, Alternative C would eliminate the central parcel within the AEWP boundary, which is located north of SR 58. As described in Section 3.7, this alternative would result in no direct disruption to the Hanson Common Allotment of Parcel 28; however, as discussed below, indirect impacts may occur. The Alternative C area comprises 2,342 acres, reducing the amount of BLM lands utilized to a total of 1,750 acres (CH2MHILL, 2011p).

Construction

During construction of this alternative the Hanson Common Allotment of Parcel 28 would not be a part of the AEWP site, and therefore, would not preclude the existing sheep. However, due to the proximity of the allotment to the AEWP site, construction activities may result in temporary indirect impacts to range conditions, which may include changes in the air quality due to the prevailing wind direction towards the east and northeast, and geologic conditions, i.e., erosion. Potential impacts to the Hansen Common Allotment would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

During operation and maintenance of this alternative, the Hansen Common Allotment would not be a part of the AEWP site, and therefore, would not present a permanent disturbance to an active allotment. However, the impacts associated with the Warren Allotment would be the same as Alternative A

Decommissioning

During decommissioning of this alternative, the Hansen Common Allotment would not be affected by decommissioning activities. However, if the allotment were to be actively grazed at the time of decommissioning, decommissioning activities could temporarily disrupt grazing due to the proximity of the allotment to the AEWP site.

4.7.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.6 Alternative D: Reduced Project Southwest

Alternative D would eliminate the southwestern most parcel, the Warren Allotment, within the AEWP boundary to reduce the potential to impact existing and allowed livestock grazing on this parcel of BLM land. Figure 2-12 displays the Alternative D site layout and existing BLM and Kern County land use designations. Currently, sheep grazing occurs within this southwestern parcel. The removal of this parcel and reduction in the project size would avoid conflicts with grazing activities during both construction and operational activities, and would eliminate 19 WTGs through loss of land or requirements imposed by setbacks (CH2MHILL, 2011p).

4.7.6.1 Direct and Indirect Impacts

Construction

During construction of this alternative, the Warren Allotment would not be a part of the Project site, and therefore, would not preclude the existing sheep grazing. However, potential impacts to the Hansen Common Allotment would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

During operation and maintenance of this alternative, the Warren Allotment would not be a part of the Project site, and therefore, would not present a permanent disturbance to the existing sheep grazing.

Decommissioning

During decommissioning of this alternative, the Warren Allotment would not be affected by decommissioning activities. However, if the allotment were to be actively grazed at the time of decommissioning, decommissioning activities could temporarily disrupt grazing due to the proximity of the allotment to the Project site.

4.7.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15, (Special Designations and Agriculture).

4.7.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

4.7.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would not amend the California Desert Conservation Area (CDCA) Plan. As a result, no wind energy project would be constructed, and the BLM would continue to manage the site consistent with the existing rangeland allotment.

Because there would be no amendment to the CDCA Plan and the proposed zone changes would not be approved, no wind project would be approved for the site under this alternative, no new structures or facilities would be constructed or operated on the site and no new ground disturbance would occur. As a result, none of the impacts on special designation areas from construction or operation of the AEWP would occur. In particular, no direct or indirect impacts on grazing allotments would occur. However, the land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan, including another renewable energy project.

4.7.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.7.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would amend the CDCA Plan to make the proposed site unavailable for future wind energy development. As a result, no wind energy project would be constructed on the site, and the BLM and would continue to manage the site consistent with the existing rangeland allotments.

Because the CDCA Plan would be amended to make the area unavailable for future wind energy development, it is expected that the site would remain in its existing condition unless another use is designated in this amendment. As a result, the grazing allotments are not expected to change noticeably from existing conditions and, as such, this No Project Alternative would have no adverse impact on grazing allotments within and adjacent to the site in the long term.

4.7.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

4.7.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site.

Because the CDCA Plan would be amended, it is possible that the site would be developed with the same or a different wind technology. As a result, it is likely that impacts on special designation areas would result from the construction and operation of the wind technology and resulting ground disturbance and would likely be similar to the impacts to grazing allotments from the AEWP. Different wind technologies require different amounts of grading; however, it is expected that all wind technologies would require grading and maintenance. As such, this No Project Alternative could result in impacts on grazing allotments similar to the impacts under the AEWP.

4.7.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

The County's CEQA Implementation Document and Environmental Checklist does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.10 Cumulative Impacts

4.7.10.1 Geographic Extent/Context

Several rangeland allotments are located in the general vicinity of the AEWP area. In addition to the Warren and Hansen Common allotments, the allotments within 10 miles of the AEWP site include the following: Cantil Common, Bissell, Rudnick Common, Nellies Nipple, Oak Creek, Double Mountain, Antelope Valley, and Bittercreek Drainage. The total acreage of these allotments is approximately 620,000 acres.

Due to the presence of these allotments in the vicinity of the AEWP site, as well as the AEWP's potential contribution to cumulative impacts on these areas, the geographic extent of analysis is a 10-mile radius from the AEWP site. Beyond this 10-mile radius, potential cumulative impacts associated with construction activities would be greatly reduced. Potential cumulative impacts could occur for the entire duration of the AEWP, from the initiation of construction to the conclusion of facility decommissioning.

4.7.10.2 Existing Cumulative Conditions

The AEWP site and surrounding area consists of undeveloped land, open space land, scattered rural residences, and the unincorporated Community of Mojave. Past and ongoing development

throughout these areas has resulted in alterations to the natural landscape and the conversion of designated lands, such as rangeland. The following are the existing wind energy systems, as presented in Table 4.1-1 (Section 4.1) of this Proposed PA, Final EIS/EIR:

- Manzana Wind Energy Project
- Alta–Oak Creek Mojave Wind Project
- Coram Brodie Wind Project
- Pine Tree Wind Development Project
- Sky River Wind Energy Facility

4.7.10.3 Reasonably Foreseeable Projects

A wide variety of existing development projects could contribute to the cumulative conditions for livestock grazing lands in regards to effects from air quality and geologic conditions in the cumulative analysis area. Table 4.1-1 lists cumulative projects in the vicinity of the AEWP site and surrounding area. Consideration of the following projects identified in Table 4.1-1 and shown on Figure 4.1-1 in Appendix A was used to develop this analysis of cumulative effects:

- PdV Infill Project
- Tehachapi Renewable Transmission Project
- Pacific Wind Energy Project
- Pacific Wind Infill Project
- Windstar Energy Project
- Alta Infill II Wind Project
- Windstar Energy Project
- Tylerhorse Wind Project
- Catalina Renewable Energy Project
- Lower West Wind Energy Project
- Morgan Hills Wind Energy Project
- North Sky River & Jawbone Wind Energy Projects
- Clearvista Wind Project
- Avalon Wind Energy Project
- Aero Energy Wind Project
- Distributed Solar Projects (10 individual solar projects)
- The Aeromen, LLC (four solar projects)
- High Desert Solar Project

Several types of development projects could contribute to the cumulative impact of the AEWP and alternatives, particularly renewable energy projects, which occupy large areas of land, such as rangelands. These types of reasonably foreseeable projects could combine with potential impacts of the AEWP or an alternative to affect special designations within the geographic extent of this cumulative analysis.

4.7.10.4 Construction

Since the majority of the existing and proposed renewable energy developments included in the cumulative projects list are not located on BLM lands, these projects do not result in the conversion of rangeland allotments. However, due to the proximity of the cumulative projects to rangelands, temporary construction indirect impacts may occur that are similar to the AEWP, which would include impacts associated with air quality and geologic conditions, i.e., erosion.

4.7.10.5 Operation and Maintenance

As mentioned above under “Construction,” the majority of the existing and proposed renewable energy developments included in the cumulative projects list are not located on BLM lands. Therefore, the cumulative projects would not result in permanent conversion of rangeland allotments.

4.7.10.6 Decommissioning

The decommissioning of the cumulative projects may result in temporary indirect impacts to surrounding rangeland allotments. Under the AEWP, decommissioning activities would cause temporary disturbances to users of the land, which would preclude grazing; however, after the AEWP has been decommissioned, users would experience a beneficial impact, as the site would return to its undeveloped state and the site would be available for grazing. Therefore, the AEWP would not contribute to cumulative impacts.

4.7.10.7 CEQA Significance and Impact Determinations, Cumulative

Appendix G of the State CEQA Guidelines does not provide specific significance criteria for livestock grazing; therefore, no significance determination has been made with respect to this resource. Therefore, for the purposes of CEQA, grazing is discussed in Section 4.15 (Special Designations and Agriculture).

4.7.11 Mitigation Measures

Mitigation Measure 4.21-5(5b) in Section 4.21 (Wildlife) requires that during periods of livestock grazing, a full-time monitor shall be present to ensure immediate removal of carcasses on the AEWP site.

4.7.12 Residual Impacts After Mitigation

Construction of the AEWP would temporarily preclude grazing from the Warren and Hanson Common Allotments. However, in order to minimize impacts to grazing activities, as part of the ROW grant, BLM may require a suspension of grazing activities during the construction period and upon completion of construction, grazing would resume within the designated grazing allotments. During the operation and maintenance period, the AEWP would result in a minimal permanent disturbance of grazing land as a result of the WTGs and access roads.

4.8 Mineral Resources

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/ Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on mineral resources. The applicable environmental and regulatory settings are discussed in Chapter 3.8. Mitigation measures that would reduce impacts, where applicable, are also discussed.

4.8.1 Methodology for Analysis

The following discussion addresses potential impacts to mineral resources associated with the AEWP and alternatives. A discussion of cumulative impacts for mineral resources is also included in this section. Baseline conditions for the environmental setting relevant to mineral resources are presented in Section 3.8 of this Final EIS/EIR. Construction activities, operation and maintenance activities, and decommissioning of the AEWP and/or an alternative to the AEWP were evaluated based on their potential to affect the baseline conditions. Additionally, California Department of Conservation publications, the Kern County General Plan (KCGP) map, and aerial photos were compared to identify potential conflicts of the proposed project's presence and operations with mineral resource extraction.

4.8.2 CEQA Thresholds of Significance and Criteria

The Kern County California Environmental Quality Act (CEQA) Implementation Document and Kern County Environmental Checklist state that a project would normally be considered to have a significant impact if it would:

MI-1 Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State;

MI-2 Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

The indicators above were also used as criteria for determining the significance of impacts under CEQA.

4.8.3 Alternative A: Project

Alternative A would construction 106 WTGs generating 318 MWs, resulting in permanent disturbance of 93.97 acres on the 2,592-acre AEWP site. As described in Section 3.8, no oil, gas, or geothermal fields are located in the vicinity of the AEWP site, although the Mineral Resources Data System (MRDS) indicates that there are closed, current, and potential mineral resources and operations in the vicinity of the AEWP site.

4.8.3.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of the AEWP on mineral resources is organized according to the phases of construction, operation and maintenance, and decommissioning.

Construction

Appropriate sources of sand and gravel required for construction of the AEWP would be identified by a construction contractor and permitted through the BLM. Sand and gravel resources are

common in the Project area, and construction of the AEWP would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

The Federal Register published on April 26, 2011, (Vol. 76, No. 80) included notice that segregates lands from mineral exploration for wind and solar applications, such as the proposed AEWP. As described in this notice, the BLM has issued an interim temporary final rule (Interim Rule) to amend the BLM's regulations to allow the BLM to temporarily segregate public lands included in a pending wind or solar energy generation ROW applications from public land laws for a period of up to two years. The Interim Rule would provide the BLM with a tool to minimize potential resource conflicts between ROWs for proposed solar and wind energy generation facilities and other uses of the public lands, such as mining claims. (Federal Register, 2011)

The BLM estimates that 109 new mining claims located within wind energy ROW application areas in Arizona, California, Idaho, Nevada, Oregon, Utah, and Wyoming would be segregated under the Interim Rule (Federal Register, 2011). The BLM further estimates, based on claimants in previous fiscal years, that approximately 14 entities would be affected by the segregation authorized per this Interim Rule (Federal Register, 2011). With respect to the purpose of this Proposed PA, Final EIS/EIR, it is not the development of the AEWP or an alternative that would temporarily segregate mining claims and wind ROW applications. The segregation is the BLM's effort to effectively manage public lands towards the purposes of multiple uses, where applicable, and to minimize conflicts between such uses to the maximum extent practicable. As described by the Interim Rule, segregation between mining claims and renewable energy applications would be temporary (up to two years) and of a duration that is considered reasonable to allow for processing of renewable energy applications on public lands. Once a ROW has been authorized, subsequently located mining claims would be subject to the previously authorized use, and any future mining claimant would have notice of such use (Federal Register, 2011).

An aggregate mining operation (Got Rocks by Homer Hansen) exists on privately owned lands located within Section 21, T32S, R35E, approximately a quarter mile north of the AEWP project boundary. The mine was authorized via Conditional Use Permit (CUP) No. 5, Map 168, which was approved for a 40-acre surface mine and reclamation plan on September 25, 1986 in accordance with requirements of the Surface Mining and Reclamation Act (SMARA) of 1975. On March 13, 2001, a modification to that CUP was approved to allow for a 350-acre expansion to its current size of 390 acres on a 640-acre parcel. The mine is permitted to extract 50,000,000 cubic yards of material over the life of operations ending in 2041. Due to the economic downturn in 2008, the mine operator filed for an Interim Management Plan (IMP) pursuant to Public Resource Code Section 2770(h)(1). The IMP affords the mine operator the ability to curtail mining for a maximum of 5-years with the intent to resume surface mining operations at a later date, subject to certain stipulations. The IMP was approved on January 1, 2009 and is effective through January 1, 2014. Access to the mining operation will not be restricted by construction, operation or decommissioning of the AEWP; as the mine access route is located outside of the AWEP project boundaries.

As discussed in Section 3.8, an Unnamed Uranium Occurrence is located about half a mile east of the southeast boundary of the Project site. Uranium, in the form found naturally, is only mildly radioactive, producing alpha radiation. This particular type of radiation is easily shielded,

has a very short range, and will not penetrate skin, paper or clothing (USGS, 2012b). In addition to the distance between the deposit and the Project boundary, there is a physical barrier since the deposit site is located within a creek bed, as well as regulatory barriers due to development/setback constraints imposed by LADWP (CH2MHill 2012a). Therefore, the Project site is far outside the effective range of any radiation that could be emitted from this deposit.

Development of the AEWP site would not interfere with any active mining operations, and would not constitute a substantial impact on regionally or locally important mineral resources.

Operation and Maintenance

Operation and maintenance activities would include the upkeep of internal access roads, and new gravel may be occasionally applied to ensure the integrity of road surfaces. It is anticipated that the same gravel source(s) used for construction of the AEWP would be used during the operation and maintenance phase. As described above, the source(s) of gravel during construction would be identified by a construction contractor and permitted through the BLM. As such, during the lifetime of the project, gravel resources may be extracted within the AEWP site and transported to the necessary on-site locations; gravel during operations may also be extracted from off-site locations and transported to the AEWP site as needed. The quantity of aggregate needed for operation and maintenance of the AEWP would be far less than that needed for construction, and would not place pressure on the supply of these minerals. Sand and gravel resources are common in the project area, and operation and maintenance of the AEWP would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site. Additionally, as described under the discussion of construction-related impacts to mineral resources, development of the AEWP would not interfere with any active mining operations, and would not constitute a substantial impact on regionally or locally important mineral resources.

The BLM is charged with managing public lands under BLM jurisdiction including as related to renewable energy developments, and as related to multiple uses defined by the Federal Land Policy and Management Act of 1976 (FLPMA), including for mining development (Federal Register, 2011). Per the Interim Rule described above and published in the Federal Register, the BLM has authority to segregate mining claims within corridors proposed for renewable energy development for up to two years, in order to allow efficient management of the public lands and avoid conflicts between multiple land uses. BLM is responsible for processing mining claims on public lands subject to BLM jurisdiction. Development of the proposed AEWP would not alter the jurisdiction or authority of the BLM; as with existing conditions, mining claims and mineral explorations on public lands within BLM jurisdiction would be subject to the authority of the BLM. Operation and maintenance of the AEWP would not permanently preclude the availability for exploration, extraction, and transport of any mineral resources.

As noted above, an aggregate mining operation (Got Rocks – CUP 5, Map 168) exists on privately owned lands located within Section 21, T32S, R35E, approximately a quarter mile north of the AEWP project boundary. Access to the mining operation will not be restricted by construction, operation or decommissioning of the AEWP; as the mine access route is located outside of the AWEP project boundaries.

Decommissioning

Decommissioning of the AEWP would not require a source of mineral resources such as sand and gravel, and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

4.8.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Construction

- **MI-1 (Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State).** Construction of the AEWP would not result in impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Although construction activities could preclude sand and gravel production on the AEWP site, those mineral resources are widely available in the region. Any potential access restrictions associated with the project traffic related to the transportation of sand and gravel to the site during construction would be temporary. Impacts would be less than significant.
- **M1-2 (Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan)**. The KCGP designates a small portion of the Project site located within Section 27, T.32.S, R.35.E, as 8.4 (Minerals and Petroleum). However, the Project site is not located within a known oilfield, does not contain any producing or potential producing petroleum fields, and does not contain any known natural gas, geothermal resources, or mineral deposits of statewide significance. As noted above, an aggregate mining operation is present approximately a quarter mile north of the Project boundary; however, the project will not impede access to or operation of that mining operation. Additionally, the Project is not within a known MRZ zone. Therefore, construction of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and impacts are considered less than significant.

Operation and Maintenance

- **MI-1 (Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State).** Operation and maintenance of the Project would not result in impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Impacts would be less than significant.
- **M1-2 (Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan).** As noted above, the KCGP designates a small portion of the project site located within Section 27, T.32.S, R.35.E, as 8.4 (Minerals and Petroleum). However, the project site does is not located within a known oilfield, does not contain any producing or potential producing petroleum fields, and does not contain any known natural gas, geothermal resources, or mineral deposits of statewide significance. As also noted above, an aggregate mining operation is present approximately a quarter mile north of the project boundary; however, the project will not impede access to or operation of that mining operation. Additionally, the proposed Project in

not within a known MRZ zone. Therefore, operation and maintenance of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and impacts are considered less than significant.

Decommissioning

- **MI-1 (Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State).** Decommissioning of the AEWP would not result in impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. No impact would occur.
- **M1-2 (Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan).** As noted above, the KCGP designates a small portion of the project site located within Section 27, T.32.S, R.35.E, as 8.4 (Minerals and Petroleum). However, the project site does is not located within a known oilfield, does not contain any producing or potential producing petroleum fields, and does not contain any known natural gas, geothermal resources, or mineral deposits of statewide significance. As also noted above, an aggregate mining operation is present approximately a quarter mile north of the project boundary; however, the project will not impede access to or operation of that mining operation. Additionally, the proposed Project in not within a known MRZ zone. Therefore, decommissioning of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and impacts are considered less than significant.

4.8.4 Alternative B: Revised Site Layout

Alternative B would involve the same components as Alternative A, except that a number of WTGs have been relocated and associated access roads rerouted. Like Alternative A, Alternative B contains 106 WTGs generating 318 MWs, and the area of disturbance under both alternatives would be the same.

4.8.4.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative B on mineral resources is organized according to the following project phases: construction, operation and maintenance, and decommissioning.

Construction

Alternative B would implement a revised site layout compared to Alternative A, but would not alter the sources or quantities of sand and gravel required for construction. As with Alternative A, construction of Alternative B would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site. Construction of Alternative B also would not alter the BLM's jurisdiction or authority under the Interim Rule (described under Alternative A) to minimize potential resource conflicts between ROWs for proposed solar and wind energy generation facilities and other uses of the public lands, including mining claims. Development of

Alternative B would not interfere with any active mining operations, and would not constitute a substantial impact on regionally or locally important mineral resources.

Operation and Maintenance

Operation and maintenance activities under Alternative B would be the same as Alternative A, and would include the upkeep of internal access roads which may include the occasional application of gravel to ensure the integrity of road surfaces. As with Alternative A, it is anticipated that the same gravel source(s) used for construction of Alternative B would be used during the operation and maintenance phase. Operation and maintenance of Alternative B would not permanently preclude the availability for exploration, extraction, and transport of any mineral resources.

Decommissioning

Decommissioning of Alternative B would not require a source of mineral resources such as sand and gravel, and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

4.8.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

As described above, potential impacts to mineral resources under Alternative B would be the same as described for Alternative A in Section 4.8.3.2. Therefore, the CEQA significance determinations for Alternative B would be identical to those described above for Alternative A.

4.8.5 Alternative C: Reduced Project Alternative North

Alternative C would implement 97 WTGs generating up to 291 MWs, which is approximately 9.3 percent less than the 106 WTGs and 318 MWs that would occur under Alternatives A and B. Potential impacts to mineral resources primarily occur due to the consumption of existing resources, or the removal or restriction of access to existing resources. The Reduced Project Alternatives (Alternatives C and D, below) would require the consumption of proportionately less sand and gravel resources associated with fewer WTGs, and would also require fewer truck trips that would have the potential to restrict access to existing mineral resources in the area. Therefore, potential impacts to mineral resources are generally anticipated to be less under this alternative, as described below.

4.8.5.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative C on mineral resources is organized according to the following project phases: construction, operation and maintenance, and decommissioning.

Construction

Due to the construction of fewer WTGs under Alternative C, the demand for sand and gravel associated with concrete tower foundations would be slightly less, and the number of truck trips that could potentially affect access to mineral resources in the area due to hauling aggregate to and from the site would also be slightly less.

Construction of Alternative C also would not alter the BLM's jurisdiction or authority under the Interim Rule (described under Alternative A) to minimize potential resource conflicts between ROWs for proposed solar and wind energy generation facilities and other uses of the public lands, including mining claims. Development of Alternative C would not interfere with any active mining operations, and would not constitute a substantial impact on regionally or locally important mineral resources.

Operation and Maintenance

Operation and maintenance activities for Alternative C would be the same as for the AEWP, and would not place pressure on the supply of local sand and gravel, such as required for road maintenance. Truck trips associated with transporting any small amount of sand and gravel required for road maintenance could potentially result in temporary access restrictions to mineral operations in the area due to the presence of trucks hauling aggregate to and from the site, but such restrictions are considered unlikely and would be temporary. Operation and maintenance of Alternative C would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

Decommissioning

Decommissioning of Alternative C would not require a source of mineral resources such as sand and gravel, and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

4.8.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project Alternative North

As described above, Alternative C would require lower quantities of sand and gravel than required for Alternatives A and B due to the construction of fewer WTGs. Potential impacts to mineral resources under Alternative C would therefore be proportionately less than described for Alternatives A and B. Nonetheless, the CEQA significance determinations for Alternative C would be the same as those described above for Alternative A.

4.8.6 Alternative D: Reduced Project Alternative Southwest

Alternative D would implement 87 WTGs generating up to 267 MWs, which is approximately 11.5 percent less than the 97 WTGs and 291 MWs that would occur under Alternative C, and approximately 21.8 percent less than the 106 WTGs and 318 MWs that would occur under Alternatives A and B. Potential impacts to mineral resources primarily occur due to the consumption of existing resources, or the removal or restriction of access to existing resources. As described under Alternative C, the Reduced Project Alternatives (Alternatives C and D) would require the consumption of proportionately less sand and gravel resources associated with fewer WTGs, and would also require fewer truck trips that would have the potential to restrict access to existing mineral resources in the area. As noted above, Alternative D would implement the fewest WTGs of Alternatives A through D; therefore, potential impacts to mineral resources are generally anticipated to be less under this alternative, as described below.

4.8.6.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative D on mineral resources is organized according to the following project phases: construction, operation and maintenance, and decommissioning.

Construction

Potential impacts of Alternative D to mineral resources that could occur during construction would be the same as described above for Alternative C, but would be proportionately less intense due to the implementation of fewer WTGs and access roads. Development of Alternative D would not interfere with any active mining operations, and would not constitute a substantial impact on regionally or locally important mineral resources.

Operation and Maintenance

Operation and maintenance of Alternative D would include the same activities as described above for Alternatives A through C, but would have less potential to result in impacts to mineral resources due to the maintenance of fewer WTGs and access road segments. Operation and maintenance of Alternative D would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

Decommissioning

Decommissioning of Alternative D would not require a source of mineral resources such as sand and gravel, and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site.

4.8.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Alternative Southwest

As described above, Alternative D would require a source of sand and gravel during the construction and operation/maintenance phases in lower quantities than required for Alternatives A, B, and C, due to the implementation of fewer WTGs and associated road segments. Potential impacts to mineral resources under Alternative D would therefore be proportionately less than described for Alternatives A through C. Nonetheless, the CEQA significance determinations for Alternative C would be the same as those described above for Alternative A.

4.8.7 Alternative E: No Issuance of a ROW Grant and No Land Use Plan Amendment (No Action / No Project)

With Alternative E, none of the project components would be built. This alternative is equivalent to the No Project Alternative under the CEQA (§15126.6(e)) and the No Action Alternative under NEPA.

4.8.7.1 Direct and Indirect Impacts

Under Alternative E, no action would occur and existing conditions relevant to mineral resources would continue. No impact would occur; however, the area would be available to development in the future. In the future, if other development projects are implemented, similar impacts to mineral resources as those described for the AEWP and alternatives could occur.

4.8.7.2 CEQA Significance and Impact Determinations, Alternative E: No Issuance of a ROW Grant and No Land Use Plan Amendment (No Action / No Project)

Alternative E would result in no impacts to mineral resources.

4.8.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

With Alternatives F and G, none of the AWEP components would be built (No Project), but an amendment to the CDCA Plan would identify the Project site as unsuitable for wind energy development.

4.8.8.1 Direct and Indirect Impacts

Under Alternative F, no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to mineral resources would continue, but may be altered at some point in the future by construction of a project other than proposed wind energy development. No impacts associated with the AEWP or an alternative would occur.

4.8.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would result in no impacts to mineral resources.

4.8.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

With Alternative G, none of the AEWP components would be built (No Project), but an amendment to the CDCA Plan would identify the Project site as suitable for wind energy development.

4.8.9.1 Direct and Indirect Impacts

Under Alternative G, no action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP or an alternative would occur. In the future, if another wind development project is implemented, similar impacts to mineral resources as those described for the AEWP could occur.

4.8.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

Alternative G would result in no impacts to mineral resources.

4.8.10 Cumulative Impacts

4.8.10.1 Geographic Extent/Context

The geographic extent of the cumulative analysis for the proposed AEWP is Kern County, including BLM lands within the county. This is an appropriate geographic extent for the cumulative impacts analysis because:

- The State Mining and Geology Board typically designates Mineral Resource Zones at the county level;
- The KCGP analyzes mineral availability county-wide; and
- Mining has been a long-standing activity on BLM lands, and the BLM addresses mining actions through the CDCA Plan, which would be amended under the AEWP and several alternatives.

The temporal scope of this cumulative analysis is the construction period for the AEWP or an alternative, because potential impacts of the Project or an alternative to mineral resources is primarily limited to the construction period.

4.8.10.2 Existing Cumulative Conditions

Past and ongoing development throughout the Project area has resulted in alterations to the natural landscape, including loss of mineral resources and restricted access to mineral resources. Those projects which comprise existing cumulative conditions for mineral resources include active mineral developments, as well as projects which establish residential and urban development that have either removed mineral resources, or restricted access to mineral resources. These conditions would be limited to the areas within and adjacent to the boundaries of individual projects. Because mineral resources are evaluated for their regional importance, cumulative impacts to mineral resources must be considered within the county as a whole, including BLM lands within the county.

Table 4.1-1 identifies all projects within the cumulative scenario, while Table 3.8-1 (Mineral Resources in the Regional Vicinity of the AEWP Site) describes all known past and current mineral developments in the area. This table represents the existing cumulative conditions relevant to mineral resources. Figure 3.8-1 in Appendix A is map of the mineral resource locations that are listed in Table 3.8-1.

4.8.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. As mentioned in Section 4.8.10.1, the geographic extent of the cumulative scenario for mineral resources is Kern County, including

BLM lands within the county. Most of the Kern County projects listed in Table 4.1-1 and identified on Figure 4.1-1 have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this Proposed PA, Final EIS/EIR.

4.8.10.4 Construction

Impacts to mineral resources are site-specific, and a cumulative impact would only occur where the AEWP and other projects would affect mineral resources in the same way, within the same timeframe, and at the same location. There are no active mineral resource operations within the proposed Project site boundaries, and the Project or an alternative would not result in the loss of availability of a locally important mineral resource or a known regionally important mineral resource, and any potential impacts associated with restricted access would be temporary and of short duration, associated strictly with the transport of aggregate materials to and from the site. Sand and gravel resources are common in the Project area, and construction of the Project or an alternative would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site and would not substantially contribute to adverse cumulative impact to mineral resources.

4.8.10.5 Operation and Maintenance

Operation and maintenance of the AEWP or an alternative would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site. As previously described, mining claims on public lands under BLM jurisdiction are subject to BLM authority; the presence of the Project or an alternative would not alter this jurisdiction or authority and would not remove access to any known mineral resource. Operation and maintenance of the Project or an alternative would not result in adverse cumulative impacts.

4.8.10.6 Decommissioning

Decommissioning of the AEWP or an alternative would not require a source of mineral resources such as sand and gravel, and would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State, or of a locally important mineral resource recovery site., as described in preceding sections. Therefore, decommissioning of the Project or an alternative would not contribute to adverse cumulative impacts.

4.8.10.7 CEQA Significance and Impact Determinations, Cumulative

Construction, operation and maintenance, and decommissioning of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (Significance Criterion MI-2); therefore, Significance Criterion MI-2 is not addressed below for cumulative impacts.

Construction

- **MI-1 (Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State).** Construction of the AEWP would not result in impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, impacts associated with construction would not contribute to cumulative impacts and cumulative impacts would be less than significant.
- **M1-2 (Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan).** As described above in section 4.8.3.2, construction of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and impacts are considered less than significant. Therefore, impacts associated with construction would not contribute to cumulative impacts and cumulative impacts would be less than significant.

Operation and Maintenance

- **MI-1 (Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State).** Operation and maintenance of the Project would not result in impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. Therefore, impacts associated with operation and maintenance would not contribute to cumulative impacts and cumulative impacts would be less than significant.
- **M1-2 (Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan).** As described above in section 4.8.3.2, operation and maintenance of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and impacts are considered less than significant. Therefore, impacts associated with operation and maintenance would not contribute to cumulative impacts and cumulative impacts would be less than significant.

Decommissioning

- **MI-1 (Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State).** Decommissioning of the AEWP would not result in impacts associated with the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, and therefore, would not contribute to cumulative impacts. No cumulative impacts would occur.
- **M1-2 (Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan).** As described above in section 4.8.3.2, decommissioning of the AEWP would not result in impacts associated with the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and impacts are considered less than significant. Therefore, impacts associated with decommissioning would not contribute to cumulative impacts and cumulative impacts would be less than significant.

4.8.11 Mitigation Measures

No mitigation measures are proposed.

4.8.12 Residual Impacts After Mitigation

The construction, operation and maintenance, and decommissioning of the AEWP or an alternative would not result in any unavoidable adverse impacts.

4.9 Noise

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/ Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) as a result of noise. The applicable environmental and regulatory settings are discussed in Chapter 3.9. Mitigation measures that would reduce impacts, where applicable, are also discussed.

4.9.1 Methodology for Analysis

Noise and vibration impacts associated with the AEWP can be created by short-term construction and decommissioning activities and by normal long-term operation of the wind energy facility, including noise from the wind turbines, electrical collection system, substation and switchyard, and operations and maintenance (O&M) activities.

Noise from construction and decommissioning activities would include both on-site and off-site noise sources. The construction noise levels that would be generated by the AEWP have been estimated based on the construction activities provided in the description of the AEWP and Alternatives (see Chapter 2). Decommissioning noise levels would be similar to those estimated for construction. Operational noise levels from the wind turbines were modeled within the *Alta East Noise Study*, May 2011, prepared by WZI Inc., which is included as Appendix F of this Final EIS/EIR and incorporated by reference herein (WZI, 2011). Other sources of operational noise, including transmission lines and the substation have been estimated based on available industry data. Noise from O&M activities have been estimated based on the description provided in the AEWP and Alternatives (see Chapter 2), and are also provided in Appendix F. Additional details regarding impact assessment methodologies are discussed under the relevant impact topic.

For those elements of the AEWP located on Kern County lands, the Kern County General Plan Noise Element and County Zoning Ordinance (Title 19), Chapter 19.64, Wind Energy (WE) Combining District would apply (see Section 3.9.2.3). As discussed in Section 3.9.1, a project-generated noise increase of more than 3 dBA is a perceptible change in environmental noise, while a 5 dBA difference typically causes a change in community reaction. An increase of 10 dBA is perceived by people as a doubling of loudness, and almost certainly causes an adverse community response. As such, it is considered reasonable to assume that an increase in background noise levels up to 5 dBA in a residential setting would not be substantial and an increase of more than 10 dBA would be substantial. An increase between 5 and 10 dBA should be considered adverse, but may be either substantial or not substantial depending on the particular circumstances. Other factors to be considered in determining if an adverse noise impact is substantial include: (1) the resulting combined noise level; (2) the duration and frequency of the noise; (3) the number of people affected; (4) the land use designation of the affected receptor sites; and (5) public concern or controversy expressed at workshops, hearings, or in correspondence regarding the AEWP.

A large percentage of the AEWP site is located on BLM-administered lands. BLM does not have regulations specific to noise, and the County noise ordinances are not applicable on public lands. However, as noted above, the Kern County General Plan and noise ordinances establish sound-level limits applicable to the residential properties located near the AEWP site that could be impacted by the AEWP, and as such they are being used in this analysis as a basis for describing possible impacts to these residences.

Noise impacts due to construction activities can be considered to be a substantial impact even when construction activities are temporary, only intermittently affect any one location. Standards are typically included to limit use of heavy equipment and noise activities to daytime hours and all industry-standard noise abatement measures are implemented for noise-producing equipment.

The Noise Control Ordinance in the Kern County Municipal Code (Section 8.36.020 et seq.) prohibits a variety of nuisance noises, but does not identify thresholds of significance pertaining to construction or construction related noise. As identified in Section 3.9.2.3 of this document, the Kern County General Plan identifies a standard of 65 dBA L_{dn} or less in outdoor activity areas for sensitive receptors. Implementation of the AEWP on private lands will required incorporation of the WE (Wind Energy Combining) District; which includes more stringent standards for operational noise. Those operational standards are specified in Section 19.64.140.J of the Kern County Zoning Ordinance and contain noise standards which require that WTG operations shall not generate audible noise levels that cause the exterior noise levels to exceed 45 dBA for more than five minutes out of any one-hour time period (L8.3) or to exceed 50 dBA for any period of time when measured within 50 feet of any existing residence, school, hospital, church or public library.

As discussed in Section 3.9.1, the primary indicator of operational noise levels for this analysis is the L_8 noise metric. Based on the Kern County WE Combining District development standards and conditions (as discussed in Section 3.9.2.3), low frequency L_8 noise data is presented to conservatively show low frequency ambient noise, as L_8 data will return higher values as opposed to L_{eq}. This noise level metric, and associated County standards, will be applicable to adjacent sensitive receptors with regards to operational noise of AEWP WTGs as adjacent receptors are located on County lands.

With respect to impacts from vibration, vibration-sensitive land uses would include high-precision manufacturing facilities or research facilities with optical and electron microscopes. None of these occur in the AEWP area. Therefore, a substantial impact resulting from excessive ground borne vibration would depend on whether a nuisance, annoyance, or physical damage to any structure could occur.

4.9.2 CEQA Thresholds of Significance and Criteria

CEQA requires determination of the significance of noise impacts associated with proposed projects. The process of assessing the significance of noise impacts associated with the AEWP involves establishing thresholds at which significant impacts on noise-sensitive uses may occur. Noise levels associated with construction and operational activities related to the AEWP were predicted and compared to these significance thresholds.

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on noise if it would:

NS-1 Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies;

NS-2 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

NS-3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

NS-4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

NS-5 For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels;

NS-6 For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Within Section 26, T.32.S, R.35.E, approximately 8.5-acres of the publically-owned portion of the AEWP boundary falls within Zone C of the Kern County Airport Land Use Compatibility Plan (ALUCP) and within the sphere of influence of the Mojave Air and Space Port. However, no part of the privately-owned portion of the AEWP boundary is located within the Kern County ALUCP or within two miles of a public or public use airport. Additionally, no WE (Wind Energy Combining) Zoning or wind turbine generators are proposed within the ALUCP or within the sphere of influence (discussed in Section 4.11, Public Health and Safety).

The closest public airport is Mojave Airport, 2.5 miles to the east. As discussed in Section 3.11.1.1 (Public Health and Safety), the Mojave Airport has three runways, is accessible for public use, and for the 12-month period ending May 3, 2011, this airport averaged 48 aircraft operations per day. Due to the size of the runway at this facility, it is assumed that only light general aviation aircraft use occurs at this facility. Therefore, construction workers would experience limited airport noise while working at the AEWP site. During AEWP operations, use of the Mojave Airport is not anticipated to generate excessive noise levels as the size of the planes would remain fairly small due to the short runway length, which cannot accommodate larger, louder airplanes. Furthermore, none of the AEWP alternatives would create residential land uses, and all AEWP features are outside the airfield property. No private airports are located within the vicinity of the AEWP; and the closest private airport is Pontious Airport, located 10 miles southeast of the AEWP boundary. Therefore, airport-related noise issues as described in Impacts NS-5 and NS-6 are not discussed further under any of the alternatives.

4.9.3 Alternative A: Project

4.9.3.1 Direct and Indirect Impacts

Effects on the existing ambient noise and vibration levels may arise from AEWP construction, operations and maintenance, and decommissioning equipment and vehicles as well as from the introduction of construction or operations and maintenance-related traffic on local roads near the AEWP site.

Construction

Construction of the AEWP is anticipated to commence in the spring of 2013 and require 9 to 12 months to complete. The sequence of construction activities for the AEWP would generally be site preparation, access road installation, WTG foundation construction, electrical collection system installation, collector substation construction, WTG installation, final testing and turbine commissioning, and cleanup and restoration.

Raw materials required for construction would include gravel for roads; concrete, sand, and cement for foundations; and water for concrete, dust control, and erosion controls. The heavy equipment listed in Section 2 (Project and Alternatives), Table 2-1, would be used during

construction activities and primarily runs on diesel fuel. The AEWP will likely be constructed in multiple phases because of scale, WTG availability and economics. The final siting of WTGs will be determined in the final engineering phases of the AEWP and will be based, in part, on the conclusions found in the noise studies. Phased construction procedures will require close coordination with Kern County.

Noise from On-Site Construction Activities

Figure 3.9-2 in Appendix A of this document shows the location of residential receptors near the AEWP site; as shown on that figure, no residential sites are located within the AEWP boundary. Construction noise was modeled for the period during which major equipment will be located at the AEWP site. At any given time it is assumed that there will be four major noise sources operating (refer to Appendix F, Exhibit 2, Typical Source Data Construction Noise). As shown in Appendix F, Figures 10 through 12, noise contours for AEWP construction at WTG locations nearest to adjacent residential receptors will experience daytime construction noise in excess of the Kern County limits established in Section 3.9.2.3. Appendix F Figures 10 through 12 show that the 65 dBA L_{dn} contour extends up to 3,000 feet downwind of the construction activity depending on terrain. It is reasonable to assume that any residential site within 3,000 feet of a WTG location (heavy construction activity associated with the AEWP nearest residential receptors) would experience temporary noise levels in excess of Kern County limits.

The number of residential receptors within the areas shown in Appendix F Figures 10 through 12 show within the 65 dBA L_{dn} contour is estimated to vary between 0-30. It should be noted that WTGs can be located anywhere on Kern County lands within the proposed WE Zoning. Thus, the number of receptors subjected to construction noise could vary. Mitigation Measure 4.9-2 (Final Noise Report Plan) will require the project proponent to prepare a final Noise Report and demonstrate compliance with County Code Chapter 19.64 (Section 19.64.140.J) Wind Energy (WE) Combining District performance standards, and the Kern County General Plan Noise Element policies regarding outdoor and interior noise levels of sensitive receptors, including construction noise.

Construction noise BMPs identified in Section 2.1.3.6 would help minimize the adverse effects of short-term and temporary construction noise on adjacent sensitive receptors. To further minimize these adverse effects, Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) will be incorporated during AEWP construction.

Construction impacts can be addressed by relocation of WTG sites away from a sensitive receptor, limiting the time of noise generating construction activity to daylight hours and using proper sound control measures on the construction equipment. Mitigation measures have been included which will reduce construction-related impacts to the extent feasible; however, temporary significant impacts would still be present during construction. Specific turbine locations that show potential construction impacts may be adjusted or eliminated; however, doing so would not completely remove the potential for impacts from the general area. Relocation issues are addressed as part of the discussion of operational impacts.

Noise from Construction-Related Traffic

Trucks delivering equipment and materials, as well as workers commuting to and from the AEWP site would generate off-site construction noise. Regional access during construction

would include State Routes 58 and 14. Access to the AEWP site would occur from the west. Access to the site would be provided from the existing Cameron Ridge Road, which would require minor roadway improvements for approximately 0.5 miles to allow for construction and other AEWP vehicles. An alternative access from the east would be provided via a bridge across the Los Angeles Aqueduct, to be constructed as part of the Alta Infill II Wind Energy Project.

As shown in Figure 3.9-2, residential areas north and southeast of the site would not be impacted by construction related traffic when west access is utilized. If access occurs from the east through the Alta Infill II Wind Energy Project site, residences to the southeast could be subject to short-term periodic bursts of noise from large trucks accessing the site. At residences located along these roadways, noise levels would temporarily increase during construction due to the additional auto traffic and heavy-duty trucks utilizing these roadways. However, these short-term temporary increases in noise levels generated by construction traffic would not significantly increase the overall hourly or daily ambient noise levels. Thus, construction traffic noise would not exceed ambient conditions or the Kern County General Plan 65 dBA L_{dn} threshold at any residential receptors.

Ground Vibrations from Construction Activities

There are three primary types of receivers that can be adversely affected by ground vibration: people, structures, and equipment. Ground vibration can cause annoyance to humans. The primary effect of perceptible vibration is often a concern. However, secondary effects, such as the rattling of a china cabinet, can also occur, even when vibration levels are well below perception. Any effect (primary perceptible vibration, secondary effects, or a combination of the two) can lead to annoyance. The degree to which a person is annoyed depends on the activity in which they are participating at the time of the disturbance. For example, someone sleeping or reading will be more sensitive than someone who is running on a treadmill. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential.

For this analysis, vibratory motion is described by identifying the peak particle velocity (PPV). Table 4.10-1 identifies PPV levels corresponding to typical human response.

Table 4.9-1. Human Response to Transient Vibration PPV (in/sec) Human Response

PPV	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: WZI, 2011.

Sources of construction equipment, which may create vibration to adjacent receptors to the AEWP site, are listed in Table 4.9-2.

Table 4.9-2. Vibration Source Amplitudes for Construction Equipment

Equipment	Estimated PPV at 25 feet (in/sec)	Estimated PPV at 100 feet (in/sec)	Estimated PPV at 400 feet (in/sec)
Pile Driver	0.65	0.14	0.035
Large bulldozer	0.089	0.02	0.0042
Caisson drilling	0.089	0.02	0.0042
Loaded trucks	0.076	0.017	0.0036
Jackhammer	0.035	0.008	0.0016
Small bulldozer	0.003	0.0007	0.0001

Source: WZI, 2011.

Based on the vibration levels shown in Table 4.9-2 in comparison to the distances of the nearest sensitive receptors to any AEWP work area, the limit of perceptibility would fall within the range of distinctly perceptible and just below the range of strongly perceptible.

Operation and Maintenance

There would be four potential sources of long-term operational noise during the life of the AEWP: noise from operation of the wind turbine generators, noise from the transmission line, noise from on-site maintenance activities, and noise generated off-site from workers commuting to and from the AEWP site.

Wind Turbine Generators

The information in this analysis is based on a technical noise study prepared for the AEWP, which is included as Appendix F of this Final EIS/EIR. As discussed above and shown in Figure 3.9-2, sensitive receptors include residences near the northern and southeastern AEWP boundary. AEWP WTGs were analyzed for the following types of operational noise:

- Audible Noise;
- Low Frequency Noise;
- Pure Tone Noise; and
- Repetitive Impulsive Noise.

Noise modeling was conducted near sensitive receptors using finite element noise modeling for Vestas 3.0 MW turbines at three wind directions (WZI, 2011). Based on these assumptions, the modeling program produces a noise contour plot of the noise level increment produced by the sources, with consideration given to the topography and terrain conditions.

To evaluate potential operational noise impacts of WTGs, the following Kern County regulatory thresholds are utilized (as presented in detail in Section 3.9.2.3) as adjacent residential receptors are located on Kern County lands:

- WE Combining District outdoor limit of 45 dBA for more than 5 minutes per hour (L_8),
- 50 dBA within 50 feet of a residence for any period of time, and
- Low frequency limits between 2 and 125 Hz.

Based on information from wind turbine manufacturers presented in Appendix F, AEWP WTGs would not produce a steady pure tone, such as a whine, screech, or hum. Modeling was performed on the basis that the sound power levels are the instantaneous noise levels for a specific wind turbine at a given wind speed in accordance with the WE Combining District overlay standards.

Audible Noise Impacts

For sensitive noise receptors, the Noise Element of the KCGP sets an exterior noise limit of 65 dB L_{dn} and an interior noise limit of 45 L_{dn}.

Section 19.64.140.J of the Kern County Zoning Ordinance contains noise standards that are specific to operations, and are more restrictive than those standards identified in the Kern County General Plan. These standards specify that where a residence, school, church, public library, or other sensitive or highly sensitive land use, as identified in the Noise Element of the County General Plan, is located within one (1) mile in a prevailing downwind direction or within one-half (1/2) mile in any other direction of a project's exterior boundary, an acoustical analysis shall be prepared by a qualified acoustical consultant prior to the issuance of any building permit. This section also states that the report shall demonstrate that WTG operations shall not generate audible noise levels that cause the exterior noise levels to exceed 45 dBA for more than five minutes out of any one-hour time period (L8.3) or to exceed 50 dBA for any period of time when measured within 50 feet of any existing residence, school, hospital, church or public library.

Section 19.64.140.J.6 states that if the ambient noise levels in an area exceed the applicable standards, the limit for project noise levels can be adjusted upward so as to equal the ambient noise level. During field observations conducted for the AEWP, it was noted that in some places, the ambient noise levels at the AEWP are higher than the WE Combining District Limits of 50 dBA. Therefore, the WE Combining District noise limits were adjusted accordingly, as shown in Tables 4.9-3 and 4.9-4 below, to permit a higher level of noise according to existing ambient conditions.

The modeling results for the North Residential Area and South Residential Area were divided according to road segments. Summary audible impacts for the road segments in the receptor areas are shown in Tables 4.9-3 and 4.9-4. Any location whose audible noise increment exceeds the thresholds is indicated in bold.

- **North Residential Area**. As shown in Table 4.9-3, the WTG location modeling results show one road segment in the North Residential Area experiencing audible impact above the Kern County threshold. The north segment of Homer Hansen's Private Road shows a modeled impact of 49 dBA and the threshold is 47 dBA. However, there are no identified or potential residences on or near this segment. No adverse impacts would occur.

Table 4.9-3. Audible Incremental Exterior Noise Levels: North Residential Area

Road Segments	Rock House Road			Pony Express Road		Piute Pass East/West		Wild Flower Road			Luna Drive			Lera Lane			Quail Canyon Road			Piute Pass North/South			Lief Road	Dove Drive	West	Homer Hansen's Private Road		
	West	Center	East	West	East	West	East	South	Center	North	South	Center	North	South	Center	North	South	Center	North	South	Center	North				South	Center	North
Winds from 315 degrees at 30 feet per Second																													
Threshold L8	*61*	*61*	*61*	*49*	*49*	*56*	*56*	*61*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*56*	*61*	*51*	*47*
Modeled L8	51	48	45	46	45	46	45	52	49	45	50	47	75	48	46	45	46	45	45	45	46	47	46	45	45	45	45	45
Threshold L1	*65*	*65*	*65*	*53*	*53*	*60*	*60*	*65*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*60*	*65*	*55*	*51*
Modeled L1	51	48	45	46	46	46	45	52	49	45	50	47	75	48	46	46	46	45	45	45	46	47	46	45	45	45	45	45
Winds from 90 degrees at 30 feet per Second																													
Threshold L8	*61*	*61*	*61*	*49*	*49*	*56*	*56*	*61*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*56*	*61*	*51*	*47*
Modeled L8	49	49	49	45	45	47	47	49	47	45	49	47	45	49	47	45	49	47	45	49	47	45	49	46	45	46	45	45
Threshold L1	*65*	*65*	*65*	*53*	*53*	*60*	*60*	*65*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*60*	*65*	*55*	*51*
Modeled L1	49	49	49	45	45	47	47	49	47	45	49	47	45	49	47	45	49	47	45	49	47	45	49	46	45	46	45	45
Winds from 180 degrees at 17 feet per Second																													
Threshold L8	*61*	*61*	*61*	*49*	*49*	*56*	*56*	*61*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*49*	*56*	*51*	*56*	*61*	*51*	*47*
Modeled L8	50	50	52	48	48	48	47	50	49	48	50	49	48	50	48	47	50	48	47	50	49	47	51	49	51	52	49	**48**
Threshold L1	*65*	*65*	*65*	*53*	*53*	*60*	*60*	*65*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*53*	*60*	*55*	*60*	*65*	*55*	*51*
Modeled L1	50	50	52	48	48	48	47	50	49	48	50	49	48	50	48	47	50	48	47	50	49	47	51	49	51	52	49	48

Source: WZI, 2011

Notes:

Kern County Threshold is 45 dBA for more than five minutes out of any one-hour time period (L8.3) or 50 dBA for any period of time when measured within 50 feet of any existing residence. The threshold was adjusted when ambient noise levels exceeded the established threshold.

Table 4.9-4. Audible Incremental Exterior Noise Levels: South Residential Area

Road Segments	Rosewood Road			Dagre Road			Center Drive			Starlite Road			Arroyo Road			60th Street			50th Street West		
	West	Center	East	West	Center	East	West	Center	East	West	Center	East	West	Center	East	South	Center	North	South	Center	North
Winds from 315 degrees at 30 feet per Second																					
Threshold L8	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*
Modeled L8	**57**	52	49	**55**	51	49	52	50	46	49	48	45	45	46	45	**57**	50	45	49	45	45
Threshold L1	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*
Modeled L1	**57**	52	49	55	51	49	52	50	46	49	48	45	45	46	45	**57**	50	45	49	45	45
Winds from 90 degrees at 30 feet per Second																					
Threshold L8	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*
Modeled L8	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Threshold L1	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*
Modeled L1	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Winds from 180 degrees at 17 feet per Second																					
Threshold L8	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*	*52*
Modeled L8	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Threshold L1	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*	*56*
Modeled L1	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45

Source: WZI, 2011

Notes:

Kern County Threshold is 45 dBA for more than five minutes out of any one-hour time period (L8.3) or 50 dBA for any period of time when measured within 50 feet of any existing residence. The threshold was adjusted when ambient noise levels exceeded the established threshold.

- **South Residential Area**. As shown in Table 4.9-4, the WTG location modeling results show several road segments in the South Residential Area experiencing audible impact above the Kern County threshold: west segment of Rosewood Road, west segment of Dagre Road, and the south segment of 60th Street. The north segment of Homer Hansen's Private Road shows a modeled impact of 49 dBA and the threshold is 47 dBA. To reduce operational noise levels of the AEWP at these locations below Kern County noise performance standards, Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) would be required.

Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) would require requiring the preparation of a Final Noise Plan to be approved by Kern County and the BLM and include methods for long-term noise complaint management, in compliance with the provisions of Chapter 19.64 of the Kern County Zoning Ordinance.

Low Frequency Noise Impacts

Chapter 19.64, 140.J.2 (WE Combining District) of the Kern County Zoning Ordinance states that the requirements for low frequency noise are between 2 and 125 Hz (as presented in detail in Section 3.9.2.3). Low frequency noise was modeled in Appendix F for Vestas 3.0 MW WTGs to evaluate conformance with the WE Combining District threshold. The resulting analysis indicates that for frequencies below 125 Hz the impact due to infrasound is not significant at a distance beyond 1,425 feet downwind from any single wind turbine and 2,400 feet downwind from any groups of turbines that are arranged tangentially to the prevailing wind direction. As discussed above for the analysis of audible noise and shown in Figure 3.9-2, a number of sensitive residential receptors within both the North Residential Area and the South Residential Area would be located within these distances of the nearest WTG. Therefore, adverse impacts from low frequency noise generated would occur. Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) would ensure that Alternative A would comply with the County WE Combining District performance standards pertaining to low frequency noise impacts by requiring the preparation of a Final Noise Plan to be approved by Kern County and the BLM and long-term noise complaint management.

Pure Tone Noise Impacts

There is a potential for noise from wind turbine operations to exhibit tonality and steady pure tones, such as a whine, screech, or hum. Based on the analysis presented in Appendix F, no specific one-third (1/3) octave band sound power level generated by the Alternative A WTGs would individually exceed the arithmetic average of the two adjacent octave band noise levels by the specified range. Therefore, pure tones are not expected to occur as a result of Alternative A WTGs.

Repetitive Impulsive Noise Impacts

The rotating blades and mechanisms within the WTGs would be a source of repetitive and potentially impulsive sounds. Based on the analysis presented in the noise study (presented in Appendix F), eliminating mechanical imbalances and reducing repetitive noise associated with rotating WTG equipment would be part of the continuous preventative maintenance associated

with operation of the AEWP. Wind turbine wheels and bearings in the gearbox, bearings in the generator, and main bearing operations would be monitored to prevent mechanical events that may create repetitive impulse noise in the audible range. Therefore, no expected audible repetitive impulse noises would be expected to occur from a normally operating WTG unit.

Transmission Line

Overhead 230 kV transmission lines would be installed between the AEWP on-site substation and the nearby SCE Windhub substation to transfer electricity generated by the WTGs into the electrical grid. As indicated in Section 2.0, there would be a 230 kV overhead transmission lines feeding into the Windhub Substation through areas of Kern County where sensitive receptors are located. The operation of high-voltage transmission lines can create audible noise known as corona discharge. The noise is generally characterized as a crackling, hissing, or humming noise. The noise is most noticeable during wet conductor conditions such as rain or fog. Corona noise is a design concern for extra-high voltage transmission lines (especially 230 kV and above), but with sufficient distance, the noise would not be noticeable on lines operated at 230 kV. Implementation of Mitigation Measure 4.9-2 (Final Noise Report Plan) would ensure that AEWP transmission lines are located at a sufficient distance from sensitive receptors such that ambient noise is not increased by more than 5 dBA.

On-Site Maintenance Activities

Regular maintenance activities, such as periodic visits to the wind turbines and substation would involve light- or medium-duty vehicles. Infrequent but noisy maintenance activities would include road maintenance or turbine maintenance. These activities would result in short-term elevated noise levels, but would be a moving source such that the contribution towards the 65 dBA L_{dn} measured noise level at any single receptor location would be negligible.

Off-Site Worker Traffic

Traffic associated with AEWP operations would generally consist of the 15 workers traveling to and from the site each day with additional temporary workers/contractors during the peak of O&M activities. These daily vehicle trips are not expected to regularly come within proximate distance of any residential receptors. Similar to on-site maintenance activities, these vehicle trips would result in short-term elevated noise levels, but would be a moving source such that the contribution towards the 65 dBA L_{dn} measured noise level at any single receptor location would be negligible.

Decommissioning

The expected life of the AEWP is 30 years. In the event that the site should be removed from power generation service, it would be made suitable for reclamation. All equipment, buildings, concrete foundations, and other infrastructure would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment to be utilized on-site during decommissioning of the AEWP would be similar to those used during construction. As such, decommissioning activities would generate a temporary and localized increase in ambient noise levels. These noise levels would be similar to those generated during construction and would likely generate similar noise contours as those shown in Appendix F, Figures 10 through 12. However, it is unknown at this time the level of residential

and other sensitive receptor development that may occur within these contours over the next 30 years beyond those already existing. The implementation of measures similar to construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) during decommissioning would reduce noise impacts.

Noise from Traffic Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Engine technologies that do not rely on internal combustion engines would likely generate lower noise levels than those produced by current vehicles. This effect is already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning activities would likely be somewhat less than the noise levels estimated for construction-related traffic, which were determined to result in negligible increase over ambient conditions when factored using a daily or hourly weighted average due to the short and infrequent nature of construction vehicle traffic. However, it is unknown at this time the level of residential and other sensitive receptor development that may occur along access roadways over the next 30 years beyond those already existing.

Ground Vibrations from Decommissioning Activities

Ground vibrations generated during decommissioning of the AEWP would be similar to those previously discussed with respect to construction activities. As with construction, decommissioning activities would require the use of large construction equipment, which may produce short-term groundborne vibration and associated groundborne noise. Typical groundborne vibration generated by heavy equipment attenuates rapidly with distance from the source of the vibration so that potential impact areas are usually confined within short distances (i.e., 200 feet or less) from the source. It is unknown at this time the level of residential and other sensitive receptor development that may occur within proximity of the site over the next 30 years beyond those already existing. However, the implementation of measures similar to construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) during decommissioning would reduce potential vibration impacts.

4.9.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.9.2. Only those significance criteria, which were determined in Section 4.9.2 to be relevant to the AEWP, are addressed below.

Construction

- **NS-1 (Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies).** Implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce construction noise impacts, such that on-site construction noise would be less than significant under Criteria NS-1 and impacts would be less than significant.

- **NS-2 (Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels).** Based on the vibration levels shown in Table 4.9 2, the limit of perceptibility would not be adverse or strongly perceptible. However, based on the vibration levels shown in Table 4.9-2, in comparison to the distances of the nearest sensitive receptors to any AEWP work area, the limit of perceptibility would fall within the range of distinctly perceptible and just below the range of strongly perceptible. Therefore, temporary construction impacts may result in a temporary increase in vibration levels above levels existing without the AEWP and impacts would be temporarily significant and unavoidable.
- **NS 3 (A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project).** As construction noise would be temporary, construction noise would be less than significant under Criteria NS-3 and impacts would be less than significant.
- **NS-4 (A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce construction noise impacts,; however, construction noise impacts from Alternative A would temporarily be significant and unavoidable during construction.

Operation and Maintenance

- **NS-1 (Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies)**. Operational noise on the AEWP site is subject to Chapter 19.64, 140.J.2 (WE Combining District) of the Kern County Zoning Ordinance. WTG location modeling results show several road segments in the South Residential Area experiencing audible impact above the Kern County threshold: west segment of Rosewood Road, west segment of Dagre Road, and the south segment of 60th Street. The north segment of Homer Hansen's Private Road shows a modeled impact of 49 dBA and the threshold is 47 dBA. Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce noise levels at these locations below Kern County noise performance standards; therefore, WTG operations would result in a less-than-significant impact under Criteria NS-1. Implementation of Mitigation Measure 4.9-2 (Final Noise Report Plan) would ensure that AEWP transmission lines are located sufficient distance from sensitive receptors such that ambient noise is not increased by more than 5 dBA. As such, transmission line operation would result in a less-than-significant impact under Criteria NS-1.
- O&M activities would result in a less-than-significant impact under Criteria NS-1.
- **NS-2 (Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels).** Ground vibration impacts from Alternative A operation would be less than significant under Criterion NS-2.
- **NS 3 (A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3

(Construction and Operation Noise Reduction Methods) would reduce noise levels at these locations below Kern County noise performance standards; therefore, WTG operations would result in a less-than-significant impact under Criteria NS-3. Implementation of Mitigation Measure 4.9-2 (Final Noise Report Plan) would ensure that AEWP transmission lines are located sufficient distance from sensitive receptors such that ambient noise is not increased by more than 5 dBA. As such, transmission line operation would result in a less-than-significant impact under Criteria NS-3. O&M activities would result in a less-than-significant impact under NS-3.

- **NS-4 (A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce operational maintenance noise impacts, such that on-site noise would be less than significant under NS-4 and impacts would be less than significant.

Decommissioning

- **NS-1 (Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies).** Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) at the time of decommissioning would reduce potentially significant noise impacts during decommissioning such that impacts would be less than significant under Criteria NS-1.
- **NS-2 (Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels).** Ground vibration impacts from Alternative A decommissioning would be less than significant with the implementation of measures similar to construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) during decommissioning under Criterion NS-2.
- **NS 3 (A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) at the time of decommissioning would reduce potentially significant noise impacts during decommissioning such that impacts would be less than significant under Criteria NS-3.
- **NS-4 (A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) at the time of decommissioning would reduce potentially significant noise impacts during decommissioning such that impacts would be less than significant under Criteria NS-4.

4.9.4 Alternative B: Revised Site Layout

4.9.4.1 Direct and Indirect Impacts

Alternative B is conceptually similar to the AEWP (Alternative A) and would have an identical site boundary; however, under Alternative B the location of WTGs and site access roads would differ slightly. This analysis of direct and indirect impacts for Alternative B is organized

according to the following phases: construction; operation and maintenance; and decommissioning.

Construction

While Alternative B would not increase the overall number of WTGs, the revised site plan would result in the location of additional WTGs and associated access roads within the South Residential Area that are constructed closer to the residential receptors and would slightly increase the density of WTGs nearest the North Residential Area. Therefore, construction noise and vibration impacts to adjacent sensitive receptors under Alternative B would be increased over those presented for Alternative A. Alternative B would require the implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) to reduce adverse construction noise impacts.

Operation and Maintenance

The revised site plan under Alternative B would result in additional WTGs and associated access roads constructed closer to residential receptors within the South Residential Area and would slightly increase the density of WTGs nearest the North Residential Area. Therefore, operational noise impacts to adjacent sensitive receptors under Alternative B would be increased over those presented for Alternative A. Alternative B would require the implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) to reduce adverse operational noise impacts.

Decommissioning

The turbines eliminated under Alternative B are sited slightly closer to sensitive receptors; therefore, decommissioning noise and vibration impacts on sensitive receptors for Alternative B would be slightly greater than those under Alternative A. However, because decommissioning would occur at least 30 years in the future, it is unknown what changes in ambient noise conditions and numbers/location of adjacent sensitive receptors may occur. Consequently, the implementation of measures similar to construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) at the time of decommissioning would be required to reduce adverse noise impacts of Alternative B.

4.9.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

While noise impacts to sensitive receptors would be slightly increased under Alternative B when compared to Alternative A, with the implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) as part of Alternative B, the CEQA significance determinations for noise and vibration impacts for Alternative B would be identical to those described above for Alternative A.

4.9.5 Alternative C: Reduced Project North

4.9.5.1 Direct and Indirect Impacts

Alternative C is identical to the AEWP (Alternative A) but would remove Parcel 28 from the site boundary, thus eliminating any WTGs or ancillary facilities north of State Route 58. This analysis of direct and indirect impacts for Alternative C is organized according to the following phases: construction; operation and maintenance; and decommissioning

Construction

The revised site boundary under Alternative C would result in the removal of WTGs and associated access roads adjacent to the North Residential Area. This would eliminate any potential construction noise impact to these receptors. Therefore, construction noise and vibration impacts to adjacent sensitive receptors under Alternative C would be reduced over those presented for Alternative A. However, as Alternative C would remain adjacent to receptors located within the South Residential Area, Alternative C would require the implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) to reduce adverse construction noise impacts.

Operation and Maintenance

The revised site boundary under Alternative C would result in the removal of WTGs and associated access roads adjacent to the North Residential Area. This would eliminate any potential operational noise impact to these receptors. Therefore, operational noise impacts to adjacent sensitive receptors under Alternative C would be reduced over those presented for Alternative A. However, as Alternative C would remain adjacent to receptors located within the South Residential Area, Alternative C would require the implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) to reduce adverse operational noise impacts.

Decommissioning

The turbines eliminated under Alternative C are assumed to ultimately result in decreased decommissioning noise and vibration impacts on sensitive receptors when compared to those under Alternative A. However, because decommissioning would occur at least 30 years in the future, it is unknown what changes in ambient noise conditions and numbers/location of adjacent sensitive receptors may occur. Consequently, the implementation of measures similar to construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) at the time of decommissioning would be required to reduce adverse noise impacts of Alternative C.

4.9.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Noise impacts would be slightly decreased under Alternative C when compared to Alternative A. With the implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) as part of Alternative C, the CEQA significance determinations for noise

and vibration impacts for Alternative C would be identical to those described above for Alternative A.

4.9.6 Alternative D: Reduced Project Southwest

4.9.6.1 Direct and Indirect Impacts

Alternative D is identical to the AEWP (Alternative A) but would remove Parcel 34 from the site boundary, thus eliminating any WTGs or ancillary facilities in the southwest of the site. This analysis of direct and indirect impacts for Alternative D is organized according to the following phases: construction; operation and maintenance; and decommissioning

Construction

The revised site boundary under Alternative D would remove WTGs and associated access roads from Parcel 34. However, no sensitive receptors are located adjacent to this parcel. Furthermore, Alternative D would require site access from the east, thus resulting in construction related traffic volumes and associated noise to occur in much closer proximity to the South Residential Area when compared to that under Alternative A. Therefore, construction noise and vibration impacts to adjacent sensitive receptors under Alternative D would be increased over those presented for Alternative A. Alternative D would require the implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) to reduce adverse construction noise impacts.

Operation and Maintenance

The revised site boundary under Alternative D would remove WTGs and associated access roads from Parcel 34. However, no sensitive receptors are located adjacent to this parcel. Therefore, operational noise impacts to adjacent sensitive receptors under Alternative D would be identical to those presented for Alternative A. Alternative D would require the implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) to reduce adverse operational noise impacts.

Decommissioning

The revised site boundary under Alternative D would remove WTGs and associated access roads from Parcel 34. However, no sensitive receptors are located adjacent to this parcel. Furthermore, Alternative D would require site access occur from the east, thus resulting in decommissioning related traffic volumes and associated noise to occur in much closer proximity to the South Residential Area when compared to that under Alternative A. Therefore, construction noise and vibration impacts to adjacent sensitive receptors under Alternative D would be increased over those presented for Alternative A. However, because decommissioning would occur at least 30 years in the future, it is unknown what changes in ambient noise conditions, site access, and numbers/location of adjacent sensitive receptors may occur. Consequently, the implementation of measures similar to construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) at the time of decommissioning would be required to reduce adverse noise impacts of Alternative D.

4.9.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

While noise impacts would be slightly increased under Alternative D when compared to Alternative A, with the implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) as part of Alternative B, the CEQA significance determinations for noise and vibration impacts for Alternative D would be identical to those described above for Alternative A.

4.9.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.9.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve Alternative A (AEWP) and would not amend the California Desert Conservation Area (CDCA) Plan. As a result, no wind energy project would be constructed, and the BLM and Kern County would continue to manage the site lands under their jurisdiction consistent with the existing land use designation in the CDCA Plan (as amended) and Kern County General Plan and Zoning Code. No action would occur and existing noise conditions relevant to the site would continue. No impacts associated with the AEWP or alternatives would occur. The land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan and Kern County regulations, including another renewable energy project. If the AEWP or an alternative is not approved, renewable energy projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/Federal mandates. Potential adverse noise impacts on non-BLM-administered lands under the No Action alternative could increase in the event developers focus their wind energy development efforts on state-owned, Tribal, and private lands. While wind energy development on nonfederal lands is subject to a wide array of environmental reviews and approvals by virtue of state and local permitting processes, they may not be subject to NEPA requirements if federal funding or permitting is not required for the AEWP.

4.9.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

Alternative E would not result in noise impacts.

4.9.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.9.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and BLM would amend the CDCA Plan to make the BLM portions of the site unsuitable for future wind energy development. As a result, no wind energy project would be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in

the CDCA Land Use Plan of 1980, as amended. No action would occur and no future development of the BLM portion of the AEWP site for wind energy would occur. Existing noise conditions of the site and adjacent area would continue, but may be altered at some point in the future by construction of a potential project other than wind energy development. No impacts associated with the AEWP or an alternative would occur. However, in the absence of this project, other renewable energy projects may be constructed to meet state and federal mandates, and those projects would have similar impacts in other locations.

4.9.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would not result in noise impacts.

4.9.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.9.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and BLM would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site. No action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP would occur. In the future, if another wind development project is implemented, similar noise impacts as those described for the AEWP could occur.

4.9.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

As a future wind development project would likely be implemented under Alternative G, the significance determinations pertaining to noise impacts for Alternative G are assumed to be similar or the same as those described for Alternative A.

4.9.10 Cumulative Impacts

4.9.10.1 Geographic Extent/Context

Noise. The geographic extent for the analysis of cumulative impacts related to noise is generally limited to areas within approximately one mile of the AEWP site, including the haul truck routes. This area is defined as the geographic extent of the cumulative noise impact area because noise impacts would generally be localized. At distances greater than one mile, impulse noise may be briefly audible and steady construction and/or operational noise would generally dissipate such that the level of noise would blend in with background noise levels. Noise in the AEWP area has increased over time as development of the area has occurred, including development of adjacent wind energy projects, including the adjacent Alta Infill II and Alta Oak Creek Mojave Projects, and use of the area for off-highway vehicle (OHV) recreational activities. These developments have changed the quiet desert of the AEWP area such that ambient noise levels existing today are

substantially higher than would have occurred prior to such development, especially during daytime hours when traffic and human activity are greatest.

Vibration. Ground vibration impacts of the AEWP stem primarily from temporary on-site construction activities. Ground vibrations dissipate more rapidly than airborne noise levels, limiting the geographic extent of ground vibration to the immediate vicinity of the vibration source. As noted in Section 3.9.1 under "General Information on Vibration," the geographic extent of potentially significant ground vibrations seldom extends more than a few hundred feet from the source of the vibrations. Vibration in the AEWP area has increased over time with development of features such as railroad tracks, highways, and roads, where use of this infrastructure by trains, trucks, cars, etc. generates localized vibrations.

4.9.10.2 Existing Cumulative Conditions

Current ambient noise conditions reflect the cumulative effect of noise generation on a local geographic scale. Existing noise levels within the AEWP site area are generally low, while increasing along those portions of the site nearest local highways (State Routes 58 and 14) and along active rail lines when trains pass through the area.

4.9.10.3 Reasonably Foreseeable Projects

Table 4.1-1, as listed in Chapter 4.1 of this Final EIS/EIR, provides a list of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this Final EIS/EIR.

Most of the projects listed in Table 4.1-1 are too far from the AEWP site to result in combined noise impacts. As shown in Figure 4.1-1, the projects that are located within the geographic area of effect for cumulative noise impacts include:

- Alta Infill II Project
- Rising Tree Wind Project

The other projects listed in Table 4.1-1 could also contribute to traffic along the local highways but a quantitative determination of cumulative noise impacts in conjunction with the AEWP on the regional roadway system would be speculative. As traffic volumes on these roadways would need to be doubled to cause even a perceptible increase in noise levels (3 dBA), which is not likely to occur as a result of these projects, analysis of this issue is not further discussed.

4.9.10.4 Construction

Construction of the Alta Infill II and Rising Tree Wind Projects would be located immediately east of the AEWP site and could occur concurrently with construction of the AEWP. Therefore, cumulative construction noise impacts could occur related to these projects, particularly to the South Residential Area. While the AEWP could combine with these projects to result in an increase in ambient daytime noise levels during construction, it is assumed that these projects would include mitigation similar to that of the construction noise BMPs and Mitigation Measures

4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) recommended for the AEWP. Therefore, the combined noise levels in the AEWP area from overlapping construction would result in short-term increased noise levels which could exceed Kern County noise standards and increase ambient noise levels in the AEWP area resulting in a cumulative noise impact. However, construction noise is short-term and temporary. Furthermore, in the unlikely event where construction activities within both the AEWP site and an adjacent cumulative project site were being conducted simultaneously in proximity to a sensitive receptor, cumulative noise would not be expected to significantly affect the overall ambient day/night (L_{dn}) noise conditions of the area or exceed the Kern County General Plan threshold of 65 dBA L_{dn}. With the inclusion of these measures as part of the AEWP, the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative construction noise impacts.

While the Alta Infill II and Rising Tree Wind Projects are located directly adjacent to the AEWP site, construction related vibration is not expected to leave the AEWP site boundary, and as such no adverse cumulative vibration impacts are expected to occur to adjacent sensitive receptors.

4.9.10.5 Operation and Maintenance

Operation of Alta Infill II Project and Rising Tree Wind Project WTGs could combine with noise from AEWP WTGs to result in cumulative noise impacts, particularly to the South Residential Area. While the AEWP could combine with these projects to result in an increase in ambient daytime noise levels, these projects would also be subject to the Kern County noise performance standards identified within the Kern County General Plan Noise Element and the Kern County Zoning Ordinance (Title 19): Chapter 19.64, Wind Energy (WE) Combining District would apply (see Section 3.9.2.3). Therefore, it is assumed that these projects would include mitigation similar to those included for the AEWP. With the inclusion of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) as part of the AEWP, the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative operational noise impacts.

Noise from routine inspection and maintenance of the Alta Infill II and Rising Tree Wind Projects could combine with noise from AEWP maintenance activities. Because maintenance activities would involve noise at levels similar to construction, equipment use would periodically cause a short-term and temporary increase in ambient noise levels. However, as analyzed for construction of Alternative A, this type of noise is short-term and impulse in nature, not impacting the overall ambient day/night (L_{dn}) noise conditions or exceeding the Chapter 19.64, 140.J.2 (WE Combining District) of the Kern County Zoning Ordinance of 45 dBA L_{dn}. Therefore, AEWP maintenance activities would not combine to result in a cumulative noise impact.

4.9.10.6 Decommissioning

Upon permanent closure of the AEWP, it is unknown what the potential cumulative contribution of the AEWP to noise impacts could occur, as the number and proximity of cumulative projects in 30 years (expected life of the AEWP) is unknown. Therefore, it is assumed that the analysis of cumulative construction impacts discussed above in Section 4.9.10.4 could occur during decommissioning.

CEQA Significance and Impact Determinations, Cumulative

As noted above, the determination of noise impacts associated with AEWP decommissioning cannot be determined at this time; therefore, only CEQA determination for cumulative construction and operational noise are discussed.

Construction

- **NS-1 (Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies).** Without mitigation, temporary construction noise levels of the AEWP in conjunction with other similar projects in the vicinity could exceed the Kern County General Plan Noise Element performance standard of 65 dBA L_{dn} during construction on adjacent residential receptors, which would result in a significant impact. However, implementation of BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce construction noise impacts, such that on-site construction noise would be less than significant under this criteria. Off-site construction noise would be generated by trucks delivering equipment and materials, as well as workers commuting to and from the Alternative A site. However, due to the brief periodic bursts of noise from such activities, cumulative construction related vehicle trips on shared roadways during construction would not result in a significant increase in weighted day/night (L_{dn}) noise levels for residences living along the travel routes. Therefore, the AEWP's contribution to this cumulative impact would not be cumulatively considerable.
- **NS-2 (Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels).** Groundborne vibration from construction activities is highly localized and not expected to reach beyond the AEWP site. However, based on the vibration levels shown in Table 4.9-2, in comparison to the distances of the nearest sensitive receptors to any AEWP work area, the limit of perceptibility would fall within the range of distinctly perceptible and just below the range of strongly perceptible. Therefore, temporary construction impacts may result in a temporary increase in vibration levels above levels existing without the AEWP and impacts would be temporarily significant and unavoidable. Therefore, the AEWP's contribution to this cumulative impact would be cumulatively considerable if adjacent wind projects resulted in construction vibration to shared receptors with the AEWP.
- **NS-3 (A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project).** As construction noise would be temporary, construction noise would be less than significant under Criteria NS-3 and the contribution to this cumulative impact would not be cumulatively considerable.
- **NS-4 (A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project).** Even with mitigation, temporary construction noise levels of the AEWP could exceed the Kern County General Plan Noise Element performance standard of 65 dBA L_{dn} during construction on adjacent residential receptors, which would result in a significant impact. Off-site construction noise would be generated by trucks delivering equipment and materials, as well as workers commuting to and from the Alternative A site. The brief periodic bursts of noise from such activities could combine with impacts from other projects that are under construction therefore, the AEWP's temporary contribution to this cumulative impact could be cumulatively considerable.

Operation and Maintenance

- **NS-1 (Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies).** While the AEWP could combine with other similar projects in the vicinity to result in an increase in ambient daytime noise levels during construction, these projects would also be subject to the Kern County noise performance standards identified within the Kern County General Plan and the Kern County Zoning Ordinance. Therefore, it is assumed that these projects would include mitigation similar to those recommended for the AEWP. With inclusion of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) , the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects, and would not contribute to cumulative operational noise impacts. Consequently, the AEWP's contribution to this cumulative impact would not be cumulatively considerable.
- Noise from routine inspection and maintenance of surrounding projects could combine with noise from AEWP maintenance activities. However, this type of noise is short-term and impulse in nature, not impacting the overall ambient day/night (L_{dn}) noise conditions or exceeding the Kern County General Plan threshold of 65 dBA L_{dn}. Therefore, the AEWP's maintenance activities would not combine to result in a cumulatively considerable cumulative noise impact.
- **NS-2 (Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels).** Groundborne vibration from operational and maintenance activities is highly localized and not expected to reach beyond the AEWP site. Consequently, its contribution to this cumulative impact would not be cumulatively considerable.
- **NS 3 (A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce noise levels at these locations below Kern County noise performance standards; therefore, WTG operations would result in a less-than-significant impact under Criteria NS-3. Implementation of Mitigation Measure 4.9-2 (Final Noise Report Plan) would ensure that AEWP transmission lines are located sufficient distance from sensitive receptors such that ambient noise is not increased by more than 5 dBA. As such, transmission line operation would result in a less-than-significant impact under Criteria NS-3. O&M activities would result in a less-than-significant impact under NS-3. Consequently, its contribution to this cumulative impact would not be cumulatively considerable.
- **NS-4 (A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project).** Implementation of Mitigation Measures 4.9-1 (Noise Complaint Plan) and 4.9-3 (Construction and Operation Noise Reduction Methods) would reduce operational maintenance noise impacts, such that on-site noise would be less than significant under NS-4 and impacts would be less than significant. Therefore, the AEWP's maintenance activities would not combine to result in a cumulatively considerable cumulative noise impact.

Decommissioning

- **NS-1 through NS-4.** Impacts would be the same as those listed for construction.

4.9.11 Mitigation Measures

MM 4.9-1 **Noise Complaint Plan.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall submit a Noise Complaint Plan to the Kern County Planning and Community Development Department and to the BLM for review and approval. The plan shall establish a telephone number for use by the public to report any nuisance noise conditions associated with the construction of the project. The project proponent shall ensure that either (a) the telephone number is staffed 24 hours per day; or (b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at entrances to the project site during construction in a manner visible to passersby. Kern County and the BLM shall be notified immediately of complaints received. This component shall detail how the project proponent will respond to operational noise complaints, keep the County apprised of all complaints, and document the resolution of those complaints.

MM 4.9-2 **Final Noise Report Plan**. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall submit the following to the BLM and Kern County Planning and Community Development Department for review and approval:

1. The project proponent shall submit a final *Noise Report* for residences located within one (1) mile in a prevailing wind direction, or within one-half (1/2) mile in any other direction of the project boundaries. The Noise Report shall demonstrate compliance with County Code Chapter 19.64 (Section 19.64.140.J) Wind Energy (WE) Combining District performance standards, and the Kern County General Plan Noise Element policies regarding outdoor and interior noise levels of sensitive receptors.
2. The Noise Report shall include evidence which demonstrates that one of the following methods will be implemented to reduce low frequency noise impacts to a less than significant level:
    a. Demonstration that limits on the cut-on speed of the wind turbine generators, and how those limits will reduce noise impacts to levels within Kern County performance thresholds;
    b. Showing that using a mix of turbine models and megawatts will reduce noise levels to a less than significant level (to be confirmed during the final review of the plot plan).
    c. Set back turbines to the maximum extent feasible from any designated habitable structure.
3. The Noise Report shall show final routing of all transmission lines and ensure that any corona discharge noise from these lines shall not increase ambient noise conditions at any sensitive receptors by 5 dBA or more.

MM 4.9-3 Construction and Operation Noise Reduction Methods. The project proponent shall continuously comply with the following during construction, operation, and decommissioning of the project:

1. All construction equipment shall be equipped with mufflers and other suitable noise attenuation devices, that equipment engines are enclosed, and that all construction equipment is in good working order.
2. The project proponent shall comply with all elements of the Kern County Ordinance, Chapter 8.36 (Section 8.36.020, Prohibited Sounds), such that no construction will occur at construction sites within 1,000 feet of an occupied residential dwelling between 9:00 p.m. and 6:00 a.m. weekdays and 9:00 p.m. and 8:00 a.m. on weekends.
3. A noise disturbance coordinator shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures to resolve the complaint. Signs posted at the construction site shall list the telephone number for the disturbance coordinator.

4.9.12 Residual Impacts After Mitigation

Construction and decommissioning noise would be substantially reduced with implementation of construction noise BMPs and Mitigation Measures 4.9-1 (Noise Complaint Plan), 4.9-2 (Final Noise Report Plan), and 4.9-3 (Construction and Operation Noise Reduction Methods).

Audible noise levels generated by the WTGs would significantly impact the following areas once operational:

- **South Residential Area**. As shown in Table 4.9-4, the WTG location modeling results show several road segments in the South Residential Area experiencing audible impact above the Kern County threshold: west segment of Rosewood Road, west segment of Dagre Road, and the south segment of 60th Street. The north segment of Homer Hansen's Private Road shows a modeled impact of 49 dBA and the threshold is 47 dBA.

Additionally, significant low frequency noise impacts would occur at a distance beyond 1,425 feet downwind from any single wind turbine and 2,400 feet downwind from any groups of turbines that are arranged tangentially to the prevailing wind direction. As discussed for the analysis of audible noise and shown in Figure 3.9-2, a number of sensitive residential receptors within both the North Residential Area and the South Residential Area would be located within these distances of the nearest WTG. However, in order to reduce noise levels of the AEWP at these locations to below Kern County noise performance standards, Mitigation Measures 4.9-2 (Final Noise Report Plan) and 4.9-3 would be required and implementation is expected to reduce adverse WTG noise. Overhead 230 kV transmission lines associated with the AEWP traverse areas of Kern County where sensitive receptors are located. The operation of high-voltage transmission lines can create audible noise known as corona discharge. Implementation of Mitigation Measure 4.9-2 (Final Noise Report Plan) would ensure that AEWP transmission lines are located sufficient distance from sensitive receptors such that ambient noise is not increased by more than 5 dBA. As such, transmission line operation would not result in adverse noise levels.

In general, O&M activities would result in only minor impacts. Furthermore, this type of noise is short-term and impulse in nature, not impacting the overall ambient day/night (L_{dn}) noise conditions or exceeding the Kern County General Plan threshold of 65 dBA L_{dn}.

4.10 Paleontological Resources

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on paleontological resources. The applicable environmental and regulatory settings are discussed in Chapter 3.10.

The Bureau of Land Management (BLM) defines "significant paleontological resources" as any fossil that is considered to be of scientific interest, including most vertebrate fossil remains and traces, and certain rare or unusual invertebrate and plant fossils. A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience (the source, origin, or location of a fossil and the recording thereof) or context, lack physical integrity because of decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes (bony external plate or scale, as on the shell of a turtle), skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (fossilized feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2011p).

4.10.1 Methodology for Analysis

The BLM, Ridgecrest District, manages approximately 78 percent of the land considered for development by the AEWP. The BLM recognized the potential for encountering significant, nonrenewable paleontological resources on portions of the AEWP. The paleontological assessment was conducted in accordance with the scope of work approved by the BLM and was accomplished under BLM permit number CA-08-00-008P (Exp. 8/11).

In its standard guidelines for assessment and mitigation of adverse impacts to paleontological resources, the SVP (1995) established three categories of sensitivity for paleontological resources: high, low, and undetermined. To these categories is added that of "moderate," following common usage in CEQA reviews of paleontological sensitivity of sediments for sites on coastal California. These four classifications are also similar to the BLM Potential Fossil Yield Classification System (PFYC). The paleontological importance or sensitivity of a stratigraphic unit reflects its potential paleontological productivity and the scientific significance of the fossils it has produced. The potential paleontological productivity of a stratigraphic unit exposed in the project area is inferred from the abundance of fossil specimens and/or previously recorded fossil sites in exposures of the unit. The underlying assumption of this assessment method is that a stratigraphic unit is most likely to yield fossil remains in a quantity and of a quality similar to those previously recorded from the unit elsewhere in the area (CH2MHILL, 2010d).

An individual fossil specimen is considered scientifically important and therefore significant if it is identifiable; complete; well preserved; age diagnostic; useful in paleoenvironmental reconstruction; a type or topotypic specimen; a member of a rare species; and/or a skeletal element different from, or a specimen more complete than, those now available for the species. For example, vertebrate remains, such as those previously uncovered in the Horned Toad Hills, are comparatively rare in the fossil record and most identifiable vertebrate remains are therefore scientifically significant (CH2MHILL, 2010d).

The Horned Toad Formation continues to produce remains of large and small vertebrate fossils and new taxonomic occurrences, such as the first Mojave Desert record of an early Pliocene sloth. Using these locality records, the PFYC system can rank sensitivity of the members of the Horned Toad Formation and other sedimentary formations associated with the AEWP. The important character of the time-sensitive fossils allows significance criteria Classes 3 through 5 to be assigned to sediments of the Horned Toad Formation. Based on the PFYC system there is no Class 4 acreage present on the AEWP. Figure 4.10-1

shows the potential fossil yield classification of the AEWP vicinity. Table 4.10-1 summarizes the paleontological sensitivity of the geologic formations within the AEWP area.

Table 4.10-1. Paleontological Sensitivity of Geologic Formations

Geologic Formations	Sensitivity	Potential Fossil Yield Classification
Horned Toad FM Member 1 Lower	Undetermined	3b
Horned Toad FM Member 1 Upper	Very High	5a
Horned Toad FM Member 2	Very High	5a
Horned Toad FM Member 3	Very High	5a
Horned Toad FM Member 4	Very High	5a
Horned Toad FM Member 5	Undetermined	3b
Older Pleistocene Alluvium	Undetermined	3b
Quaternary Alluvium	Low	2
Rhyolitic Felsite	Very Low	1
Cretaceous Cameron Granodiorite	Very Low	1

Source: LSA, 2011.

The field assessment located 12 previously reported sites and 69 new localities from exposures of the Horned Toad Formation within the AEWP area. In all, paleontological research and field inventory studies for the AEWP documented 103 fossil localities in the Horned Toad Formation containing 35 different taxa. Of the 103 total localities, 69 were identified through the current survey, and an additional 12 previously recorded localities were re-located (LSA, 2011). The remaining 22 localities were recorded by the Paleontology Museum of the University of California, Berkeley. Precise location data for these sites was not provided (LSA, 2011:20).

4.10.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on paleontological resources if it would:

PALEO-1 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

While Section 15064.5 of the State CEQA Guidelines defines "unique archaeological resources," CEQA does not define a unique paleontological resource. Therefore, for purposes of this document, a paleontological resource or site is considered "unique" where it meets any of the following criteria:

- It is the best example of its kind locally or regionally;
- Illustrates a geologic principle;
- Provides a critical piece of paleobiological data;
- Encompasses any part of a "type locality" of a fossil or formation;
- Contains a unique or particularly unusual assemblage of fossils;
- Occupies a unique position stratigraphically; and/or
- Occupies a unique position, proximally, distally or laterally within a formation's extent or distribution.

4.10.3 Alternative A: Project

Alternative A would generate up to 318 MW of electricity through wind power via up to 106 WTGs, a substation, transmission interconnection, access roads, and ancillary facilities. The project area comprises 2,592 acres; however, the total wind energy development area (on both private and public land) would cover less acreage, as only a portion of wind energy development area would be temporarily or permanently disturbed.

4.10.3.1 Direct and Indirect Impacts

Construction

The potential exists for unique paleontological resources to be encountered within Alternative A during ground-disturbing construction activities, including grubbing, grading, and excavation. Potential adverse impacts on these resources include, but are not limited to, being directly impacted and destroyed by construction equipment and AEWP-related vehicles, exposure of alluvium during construction that may subject any potentially fossil-bearing units to increased weathering and erosion, unauthorized collection of fossils by AEWP personnel (as well as amateur and commercial collectors who would have greater access to the area), vandalism, and the loss of associated scientific information.

As shown in Figure 4.10-1, the majority of the northernmost portion of the Alternative A is underlain by low or very low sensitivity (PFYC Class 1 and 2) igneous and metamorphic units. Therefore, construction activities in units which have little to no potential to yield significant paleontological resources would not be expected to result in impacts to unique paleontological resources or unique geologic features. However, there are portions of Alternative A that is underlain by undetermined-sensitivity (PFYC Class 3b) Older Pleistocene Alluvium (1,262 acres). The highest potential (PFYC Class 5a) for Alternative A to impact paleontological resources is in areas underlain by the Horned Toad Formations 1 Upper, 2, 3, and 4, which in Figure 4.10-1 appears throughout the central and southwestern portion of the site (368 acres).

As noted above, the project site-specific field assessment located 12 previously reported sites and 69 new localities from exposures of the Horned Toad Formation within the AEWP area. In all, paleontological research and field inventory studies for the AEWP documented 103 fossil localities in the Horned Toad Formation containing 35 different taxa. Of the 103 total localities, 69 were identified through the current survey, and an additional 12 previously recorded localities were re-located (LSA, 2011). The remaining 22 localities were recorded by the Paleontology Museum of the University of California, Berkeley. Precise location data for these sites was not provided (LSA, 2011:20).

Construction activities in these deposits could impact unique paleontological resources. The potential for direct impacts to paleontological resources during construction activities would be substantially reduced with the implementation of Mitigation Measures 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology) (see Section 4.10.11, below).

Operation and Maintenance

No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, with the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, including 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor

Construction for Paleontology) (see Section 4.10.11, below), potential adverse impacts on paleontological resources within the AEWP area would be negligible.

Decommissioning

No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore impacts on paleontological resources within the AEWP area would be negligible.

4.10.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.4.2.

Construction

- **PALEO-1 (Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature).** CEQA requires that all feasible and reasonable mitigation be applied to reduce the AEWP's impacts to the paleontological resources in the environment. As described above, Alternative A has the potential to impact unique paleontological resources during construction. Implementation of Mitigation Measure 4.10-1 would develop a Paleontological Resource Monitoring and Mitigation Plan; Mitigation Measure 4.10-2 requires full-time construction monitoring in areas that are highly sensitive for paleontological resources; and Mitigation Measure 4.10-3 requires personnel be trained on the recognition of the types of paleontological resources that could be encountered in the AEWP area and the procedures to be followed (see Section 4.10.11). With implementation of these mitigation measures, impacts on paleontological resources would be reduced to a less-than-significant level.

Operation

- **PALEO-1 (Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature).** No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. With the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, including 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology), potential adverse impacts on paleontological resources within the AEWP area would be less than significant.

Decommissioning

- **PALEO-1 (Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature).** No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, there would be no impacts.

4.10.4 Alternative B: Revised Site Layout

Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting access roads. All other features associated with Alternative B would remain unchanged compared to that discussed above for Alternative A (Project). Alternative B contains 106 WTGs generating 318 MWs.

4.10.4.1 Direct and Indirect Impacts

Construction

The potential exists for unique paleontological resources to be encountered within Alternative B during ground-disturbing construction activities, including grubbing, grading, and excavation. Potential adverse impacts on these resources include, but are not limited to, being directly impacted and destroyed by construction equipment and AEWP-related vehicles, exposure of alluvium during construction that may subject any potentially fossil-bearing units to increased weathering and erosion, unauthorized collection of fossils by AEWP personnel (as well as amateur and commercial collectors who would have greater access to the area), vandalism, and the loss of associated scientific information.

As shown in Figure 4.10-1, the majority of the northernmost portion of the Alternative B is underlain by low or very low sensitivity (PFYC Class 1 and 2) igneous and metamorphic units. Therefore, construction activities in units which have little to no potential to yield significant paleontological resources would not be expected to result in impacts to unique paleontological resources or unique geologic features. However, there are portions of Alternative B that is underlain by undetermined-sensitivity (PFYC Class 3b) Older Pleistocene Alluvium (1,262 acres). The highest potential (PFYC Class 5a) for Alternative B to impact paleontological resources is in areas underlain by the Horned Toad Formations 1 Upper, 2, 3, and 4, which in Figure 4.10-1 appears throughout the central and southwestern portion of the site (368 acres). Construction activities in these deposits could impact unique paleontological resources. The potential for direct impacts to paleontological resources during construction activities would be substantially reduced with the implementation of Mitigation Measures 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology) (see Section 4.10.11, below).

Operation and Maintenance

No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, with the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, including 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology) (see Section 4.10.11, below), potential adverse impacts on paleontological resources within the AEWP area would be negligible.

Decommissioning

No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore impacts on paleontological resources within the AEWP area would be negligible.

4.10.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative B would be identical to that for Alternative A as described in Section 4.10.3.2 above.

4.10.5 Alternative C: Reduced Project North

Under Alternative C, all WTGs and ancillary facilities would remain identical to that of Alternative A. However, Alternative C would eliminate the central parcel within the AEWP (Alternative A) boundary, which is north of SR 58. This alternative would result in a total of 97 WTGs capable of generating up to 291 MWs. The Alternative C area comprises 2,342 acres, reducing the amount of BLM lands utilized to a total of 1,750 acres.

4.10.5.1 Direct and Indirect Impacts

Construction

The potential exists for unique paleontological resources to be encountered within Alternative C during ground-disturbing construction activities, including grubbing, grading, and excavation. Potential adverse impacts on these resources include, but are not limited to, being directly impacted and destroyed by construction equipment and AEWP-related vehicles, exposure of alluvium during construction that may subject any potentially fossil-bearing units to increased weathering and erosion, unauthorized collection of fossils by AEWP personnel (as well as amateur and commercial collectors who would have greater access to the area), vandalism, and the loss of associated scientific information.

As shown in Figure 4.10-1, the majority of Alternative C is underlain by undetermined-sensitivity (PFYC Class 3b) Older Pleistocene Alluvium (1,222 acres). However, the highest potential (PFYC Class 5a) for Alternative C to impact paleontological resources is in areas underlain by the Horned Toad Formations 1 Upper, 2, 3, and 4, which in Figure 4.10-1 appears throughout the central and southwestern portion of the site (363 acres). Construction activities in these deposits could impact unique paleontological resources. The potential for direct impacts to paleontological resources during construction activities would be substantially reduced with the implementation of Mitigation Measures 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology) (see Section 4.10.11, below).

Operation and Maintenance

No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, with the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, including 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology)(see Section 4.10.11, below), potential adverse impacts on paleontological resources within the AEWP area would be negligible.

Decommissioning

No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological

resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore impacts on paleontological resources within the AEWP area would be negligible.

4.10.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative C would be identical to that for Alternative A as described in Section 4.10.3.2 above.

4.10.6 Alternative D: Reduced Project Southwest

Under Alternative D, all WTGs and ancillary facilities would remain identical to that of Alternative A. Alternative D would eliminate the southwestern most parcel within the AEWP boundary to reduce the potential to impact existing and allowed livestock grazing on this parcel of BLM land. This alternative would result in a total of 87 WTGs capable of generating up to 267 MWs. The Alternative D area comprises 2,108 acres, reducing the amount of BLM lands utilized to a total of 1,516 acres.

4.10.6.1 Direct and Indirect Impacts

Construction

The potential exists for unique paleontological resources to be encountered within Alternative D during ground-disturbing construction activities, including grubbing, grading, and excavation. Potential adverse impacts on these resources include, but are not limited to, being directly impacted and destroyed by construction equipment and AEWP-related vehicles, exposure of alluvium during construction that may subject any potentially fossil-bearing units to increased weathering and erosion, unauthorized collection of fossils by AEWP personnel (as well as amateur and commercial collectors who would have greater access to the area), vandalism, and the loss of associated scientific information.

As shown in Figure 4.10-1, the majority of Alternative D is underlain by undetermined-sensitivity (PFYC Class 3b) Older Pleistocene Alluvium (891 acres). However, the highest potential (PFYC Class 5a) for Alternative C to impact paleontological resources is in areas underlain by the Horned Toad Formations 1 Upper, 2, 3, and 4, which in Figure 4.10-1 appears throughout the central portion of the site (293 acres). Construction activities in these deposits could impact unique paleontological resources. The potential for direct impacts to paleontological resources during construction activities would be substantially reduced with the implementation of Mitigation Measures 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology)(see Section 4.10.11, below).

Operation and Maintenance

No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, with the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, including 4.10-1 through 4.10-3 (see Section 4.10.11, below), potential adverse impacts on paleontological resources within the AEWP area would be negligible.

Decommissioning

No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore impacts on paleontological resources within the AEWP area would be negligible.

4.10.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Construction/Operation and Maintenance/Decommissioning

The CEQA significance determinations for Alternative D would be identical to that for Alternative A as described in Section 4.10.3.2 above.

4.10.7 Alternative E: No Issuance of ROW Grant and No LUP Amendment (No Action)

Under Alternative E (No Issuance of a ROW Grant and No LUP Amendment) to the AEWP, no action would occur and existing conditions relevant to paleontological resources would continue. Existing conditions relevant to paleontological resources would continue, but may be altered at some point in the future by construction of a wind energy or other development project.

4.10.7.1 Direct and Indirect Impacts

No impact associated with the AEWP would occur.

4.10.7.2 CEQA Significance and Impact Determinations, Alternative E: No Issuance of ROW Grant and No LUP Amendment (No Action)

Alternative E would not result in impacts to paleontological resources.

4.10.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Under Alternative F (No Issuance of a ROW Grant with LUP Amendment to Identify the Area as Unsuitable for Wind Energy Development), no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to paleontological resources would continue, but may be altered at some point in the future by construction of a potential project other than the AEWP.

4.10.8.1 Direct and Indirect Impacts

No impacts associated with the AEWP would occur.

4.10.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would not result in impacts to paleontological resources. However, in the absence of the AEWP, other renewable energy projects may be constructed at the project site or elsewhere to meet State

and federal mandates, and those projects could have impacts similar to those of the AEWP (Alternative A).

4.10.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

Under Alternative G (No Issuance of a ROW Grant with LUP Amendment to Identify the Area as Suitable for Wind Energy Development), no action would occur but the area would be available to wind power development in the future.

4.10.9.1 Direct and Indirect Impacts

No impacts associated with the AEWP would occur.

4.10.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

Alternative G would not result in impacts to paleontological resources. However, if another wind development project were to be implemented, similar impacts to paleontological resources as those described for the AEWP (Alternative A) could occur if the developer of said future development adopts similar avoidance measures in the design of the wind farm.

4.10.10 Cumulative Impacts

This section analyzes the cumulative impact of the construction, operation and maintenance, and decommissioning of the elements of the AEWP, taking into account the effects in common with other past, present, and reasonably foreseeable future actions. The cumulative effects analysis highlights past actions that are closely related either in time or space (i.e., temporally or in geographic proximity) to the AEWP, present actions that are ongoing at the same time this Final EIS/EIR was being prepared; and reasonably foreseeable future actions, including those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

4.10.10.1 Geographic Extent/Context

The geographic extent for cumulative impacts analysis of paleontological resources is limited to the AEWP site (i.e., the area contained with the project boundaries), as this is the area of ground-disturbing activities for the AEWP that could have the potential to combine with past, present, and future (planned) projects.

4.10.10.2 Existing Cumulative Conditions

Cumulative conditions to paleontological resources involve the loss of non-renewable scientifically important fossils and associated data, and the incremental loss to science and society of these resources over time. Energy development projects, as well as commercial and residential development projects, have resulted in cumulative conditions affecting paleontological resources in Kern County. A field survey of the project area was completed in December 2010 and February 2011 and, based on the survey results, it appears that additional scientifically significant fossils remain on the ground surface within the project area. Therefore, construction activities in these deposits could impact unique paleontological resources. There is a high potential for adverse impacts to fossils on the ground surface from AEWP-related ground disturbing actions. However, the potential for direct impacts to paleontological resources during AEWP-

related ground disturbing actions will be substantially reduced with the implementation of Mitigation Measures PA-1 through PA-3 (see Section 4.10.11, below). In addition, the implementation of paleontological mitigation measures during surface disturbing projects has resulted in the salvage and permanent preservation of large numbers of scientifically significant paleontological resources that would otherwise have been destroyed. This has greatly reduced the cumulative effects of such projects on paleontological resources, and has resulted in the beneficial cumulative effect of making these fossils available for scientific research and education by placing them in museum collections.

4.10.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this Final EIS/EIR.

4.10.10.4 Construction

Unknown, unrecorded paleontological resources may be found at nearly any present and future development site. However, as they are discovered, sites are recorded and information retrieved. If the nature of the resource requires it, the resource is protected. When discovered, paleontological resources are treated in accordance with applicable federal and State laws and regulations as well as the mitigation measures and permit requirements applicable to a project.

It is not known what paleontological resources, if any, would be affected by construction of all present and future projects identified in Table 4.1-1. However, given the density of past development in Kern County, and the large number of reasonably foreseeable projects listed in Table 4.1-1, it is reasonable to assume that resources exist and could be uncovered at several of these sites. Although significant fossils may be discovered during excavation for construction, through implementation of Mitigation Measures 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology), direct impacts to paleontological resources would be reduced to a level that is less than significant. Paleontological resources are generally not considered subject to cumulative impacts because they are localized and site-specific and are either individually impacted in a way that changes the significance of the resource or are avoided. In addition, the other projects identified in Table 4.1-1 would also be expected to reduce potential impacts on paleontological resources to a less than significant level through avoidance or mitigation and, therefore, not contribute to a significant cumulative impact. Therefore, impacts of the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact to paleontological resources.

4.10.10.5 Operation and Maintenance

No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, with the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, potential adverse impacts on paleontological resources within the AEWP area would be negligible.

4.10.10.6 Decommissioning

No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore impacts on paleontological resources within the AEWP area would be negligible.

4.10.10.7 CEQA Significance and Impact Determinations, Cumulative

Significance conclusions for the impacts identified for each phase of Cumulative Impacts (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.10.2.

Construction

- **PALEO-1 (Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature).** Although significant fossils may be discovered during excavation for construction, through implementation of Mitigation Measures 4.10-1 (Develop Paleontological Resource Monitoring and Mitigation Plan), 4.10-2 (Train Construction Personnel), and 4.10-3 (Monitor Construction for Paleontology), direct impacts to paleontological resources would be reduced to a level that is less than significant. Paleontological resources are generally not considered subject to cumulative impacts because they are localized and site-specific and are either individually impacted in a way that changes the significance of the resource or are avoided. With implementation of these mitigation measures, cumulative impacts on paleontological resources would be reduced to a less-than-significant level.

Operation

- **PALEO-1 (Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature).** No direct impacts to paleontological resources are anticipated in association with AEWP operation and maintenance. The potential for indirect impacts in association with AEWP operation and maintenance is anticipated to be low. With the implementation of mitigation measures for known fossil sites and unknown subsurface fossil sites, potential cumulative impacts on paleontological resources within the AEWP area would be less than significant.

Decommissioning

- **PALEO-1 (Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature).** No direct impacts to paleontological resources are anticipated in association with AEWP decommissioning. The potential for indirect impacts in association with AEWP decommissioning is anticipated to be low. Areas within the AEWP that have moderate to high potential for significant paleontological resources located on the surface and potentially vulnerable to vandalism and theft will be collected prior to, or during, construction. Therefore, there would be no cumulative impacts.

4.10.11 Mitigation Measures

The AEWP would include implementation of recommended BMPs from BLM's Programmatic EIS for Wind Energy Development on BLM-Administered Lands in the Western United States (BLM, 2005e). The applicable BLM BMPs are presented below. In addition, AEWP-specific mitigation measures are presented to minimize and avoid adverse effects on paleontological resources.

Project-Specific Mitigation Measures

MM 4.10-1 **Develop Paleontological Resource Monitoring and Mitigation Plan.** Prior to the issuance of grading or building permits by Kern County or a Notice to Proceed by the BLM, the project proponent shall submit a *Paleontological Resource Management Plan* that details when and where paleontological monitoring will occur and how paleontological resources located within the project site will be avoided and/or treated. The *Paleontological Resource Management Plan* shall be prepared, at the sole expense of the project proponent, and shall be based on Society of Vertebrate Paleontology (SVP) guidelines and meet all regulatory requirements. The plan shall be submitted for review and approval by the BLM and the Kern County Planning and Community Development Department.

The *Paleontological Resource Management Plan* shall include the following information:

1. Identification and mapping of impact areas of moderate to high sensitivity that will be monitored during construction;
2. A coordination strategy to ensure that a qualified paleontological monitor will conduct full-time monitoring of all ground disturbances in sediments determined to have a moderate to high sensitivity. Sediments of low, marginal, and undetermined sensitivity shall be monitored on a part-time basis (as determined by the Qualified Paleontologist);
3. The significance criteria to be used to determine which resources will be avoided or recovered for their data potential;
4. Procedures for the discovery, recovery, preparation, and analysis of paleontological resources encountered during construction, in accordance with standards for recovery established by the SVP;
5. Provisions for verification that the project proponent has an agreement with a recognized museum repository ~~(e.g., the Buena Vista Museum of Natural History or the Raymond Alf Museum)~~ for the disposition of recovered fossils and that the fossils shall be prepared prior to submittal to the repository as required by the repository (e.g., prepared, analyzed at a laboratory, curated, or cataloged);
6. Specifications that all paleontological work undertaken by the Project Proponent on public land shall be carried out by qualified paleontologists with the appropriate current permits, including, but not limited to a Paleontological Resources Use Permit (for work on public lands administered by BLM) and a Paleontological Collecting Permit (for work on lands administered by California Department of Parks and Recreation); and,
7. Description of monitoring reports that will be prepared, which shall include daily logs and a final monitoring report with an itemized list of specimens found to be submitted to Kern County Planning and Community Development Department, the project proponent~~,~~ and an accredited museum into which any recovered fossil specimens are accessioned into ~~the Buena Vista Museum of Natural History, and the Natural History Museum of Los Angeles County~~ within 90 days of the completion of monitoring.

MM 4.10-2 **Train Construction Personnel.** Prior to grading or building permits by Kern County or a Notice to Proceed by the BLM, the project proponent shall submit evidence of compliance with the following:

1. The project proponent shall provide for a paleontologist to provide all construction personnel training on implementation of the *Paleontological Resource Management Plan* and specifically procedures to be followed in the event that a fossil site or fossil occurrence is encountered during construction. An information package shall be provided for construction personnel not present at the initial preconstruction briefing. All personnel shall be instructed that unauthorized collection or disturbance of protected fossils will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order.

~~2. The project proponent shall retain a paleontologist to conduct a site survey to determine if there are any Quaternary deposits present within the project boundary that would be impacted by ground-disturbing activities. If present, those deposits shall be examined for their fossil potential in order to focus monitoring efforts.~~

MM 4.10-3 **Monitor Construction for Paleontology.** The project proponent shall continuously comply with the following during all ground-disturbing activities and during project operations:

1. Based on the paleontological sensitivity assessment and *Paleontological Resource Management Plan*, the project proponent shall conduct full-time construction monitoring by the qualified paleontological monitor in areas determined to have moderate to high paleontological sensitivity. Sediments of low, marginal, or undetermined sensitivity shall be monitored by a paleontological monitor on a part-time basis (as determined by the Paleontologist). Construction activities shall be diverted when data recovery of significant fossils is warranted, as determined by the Paleontologist. Monitoring shall be conducted as follows:

    a. Monitoring of ground disturbance shall consist of the surface collection of visible vertebrate and invertebrate fossils within the project site. Upon discovery of paleontological resources by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Project Proponent's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the project proponent's paleontologist will notify the BLM and Kern County Planning and Community Development Department of the discovery. If recovery of a large or unusually productive fossil occurrence is warranted, earthmoving activities shall be diverted temporarily around the fossil site, and a recovery crew shall be mobilized to remove the material as quickly as possible. The monitor shall be permitted to photograph and/or draw stratigraphic profiles of cut surfaces and take samples for analysis of microfossils, dating, or other specified purposes, in accordance with the research design.

    b. Recovered specimens shall be prepared to a point of identification, including washing of sediments to recover smaller fossil remains. Once excavation has reached specified depths, salvage of fossil material from the side walls of the cut shall resume. Specimens shall be identified and curated into a museum repository with a retrievable storage.

    c. All significant fossil specimens recovered from the project site as a result of the paleontological mitigation program shall be treated (prepared, identified, curated, and cataloged) in accordance with designated museum repository requirements.

Samples shall be submitted to a laboratory, acceptable to the selected museum, for identification, dating, and microfossil and pollen analysis.

d. Daily logs shall be kept by the paleontological monitor during field monitoring and shall be submitted weekly to Kern County. A complete set of the daily monitoring logs shall be kept on-site throughout the earthmoving activities and be available for inspection. The daily monitoring log shall be keyed to a location map to indicate the area monitored, the date, the assigned personnel, and the results of the monitoring activities, including rock unit encountered, fossil specimens recovered, and associated specimen data, as well as corresponding geologic and geographic site data. Within 90 days of the completion of the paleontological monitoring, a monitoring report, with an appended, itemized inventory of specimens, shall be submitted to Kern County, the project proponent, and the Buena Vista Museum of Natural History.

BLM Best Management Practices

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.
- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation may include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist may be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.
- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

4.10.12 Residual Impacts After Mitigation

The implementation of the included mitigation measures would substantially reduce potential adverse impacts on scientifically significant paleontological resources. Such mitigation measures have been proven to be effective in reducing adverse effects on fossils resulting from surface-disturbing projects on BLM land throughout the western United States. However, even in the most effective paleontological mitigation monitoring program, inadvertent damage to paleontological resources does occur. This damage occurs at the point at which the fossils are uncovered by excavation equipment, and in cases in which fossils are not identified by paleontological monitors during excavation. The damage caused by construction equipment can typically be repaired in a paleontological laboratory.

4.11 Public Health and Safety

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) describes effects on public health and safety that could result from implementation of the Alta East Wind Project (AEWP) and alternatives. The following discussion addresses potential environmental impacts associated with implementation of the AEWP and recommends measures to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the AEWP and alternatives. A discussion of cumulative impacts related to public health and safety is also included in this section.

4.11.1 Methodology for Analysis

To complete this analysis of environmental consequences associated with impacts on public health and safety, potential impacts on the following issue areas were considered: aircraft operations, seismic hazards, hazardous materials, public health, and intentionally destructive acts.

Aircraft Operations

Research on the presence of public and private airports within the vicinity of the AEWP site was conducted as well as research on the Edwards Air Force Base, which is 9.5 miles southeast of the AEWP site. Analysis of the Federal Aviation Administration (FAA) guidelines was conducted to determine whether the Alta East Wind Project and alternatives would adversely affect commercial, military, or personal air navigation safety.

Seismic Hazards

The potential for damage to project structures or increased risk of injury due to geologic hazards was analyzed using available data as presented in Section 3.14.1 (Soil Resources).

Hazardous Materials

In order to assess the potential for released hazardous materials to affect the public, this analysis evaluates several aspects of the proposed use of these materials at the facility. This analysis was conducted by examining the choice and amount of chemicals to be used, the manner in which the Project proponent would use the chemicals, the manner by which they would be transported to the facility, and the way in which the project proponent plans to store the materials on site.

Engineering and administrative controls concerning the use of hazardous materials are included as part of the AEWP. Engineering controls are the physical or mechanical systems, such as storage tanks or automatic shut-off valves, that can prevent the spill of hazardous material from occurring, or that can either limit the spill to a small amount or confine it to a small area. Administrative controls are the rules and procedures that workers at the facility must follow that would help to prevent accidents or to keep them small if they do occur. Both engineering and administrative controls can act as methods of prevention or as methods of response and minimization. In both cases, the goal is to prevent a spill from moving off-site and causing harm to the public. As described in Section 3.11, describes the Superfund Amendments and Reauthorization Act (SARA), which amends the Comprehensive Environmental Response and Liability Act and governs hazardous substances. SARA provides regulations primarily for planning, reporting, and notification concerning hazardous substances.

Emergency Response

Emergency Response and services systems were evaluated by reviewing the most current data available from State and Kern County department websites, the Kern County General Plan (KCGP), the Kern

County Multi-Hazard Mitigation Plan, and the Kern County Fire Department (KCFD) Wildland Fire Management Plan (WFMP).

Public Health

Potential impacts from the AEWP to public health for residents of Kern County are discussed in this section. These include disease vectors, pesticide use, shadow flicker, Wind Turbine Syndrome (WTS), and electromagnetic fields (see "Public Health" under "Operation and Maintenance," Section 4.11.3). Potential impacts will be discussed as they compare to changes in existing conditions. Several controls and programs are already in place within the County such as vector control activities.

Intentionally Destructive Acts

The potential for intentional destructive acts, such as sabotage or terrorism events, to cause impacts to human health and the environment are discussed. As opposed to industrial hazards, collisions, and natural events, where it is possible to estimate event probabilities based on historical statistical data and information, it is not possible to accurately estimate the probability of an act of terrorism or sabotage.

4.11.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on hazardous materials if it would:

Aircraft Operations

The AEWP could affect human health and safety by affecting aircraft operations. Effects on aircraft operations would occur if the AEWP would:

PH-1 For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

PH-2 For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project.

Hazardous Materials

The AEWP could affect human health and safety by exposing the public and the environment to hazardous materials. Effects on human health and safety would occur if the AEWP would:

PH-3 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

PH-4 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment;

PH-5 Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

PH-6 Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) and, as a result, would it create a significant hazard to the public or the environment.

Emergency Response and Public Services

PH-7 Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

PH-8 Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection, Police protection, Schools, Parks, and other public facilities.

Solid Waste

PH-9 Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

PH-10 Comply with federal, state, and local statutes and regulations related to solid waste.

Public Health

PH-11 Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold: Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:

i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and,

ii. Are associated with design, layout, and management of project operations; and,

iii. Disseminate widely from the property; and,

iv. Cause detrimental effects on the public health or well being of the majority of the surrounding population.

Intentionally Destructive Acts

No CEQA significance criteria are related to intentionally destructive acts.

4.11.3 Alternative A: Proposed Action

4.11.3.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for the AEWP is organized according to the following AEWP phases: construction; operation and maintenance; and decommissioning.

Construction

Aircraft Operations

As noted in Section 3-17, the nearest public airstrip is the Mojave Air and Spaceport, located in approximately 3 miles to the southeast, in the adjacent community of Mojave. The northern edge of the runway is located 3.1 miles southeast of the closest portion of the AEWP boundary. Within Section 26, T.32.S, R.35.E , approximately 8.5-acres of the publically-owned portion of the AEWP boundary falls within Zone C of the Kern County Airport Land Use Compatibility Plan (ALUCP) and within the sphere

of influence of the Mojave Air and Space Port. However, no part of the privately-owned portion of the AEWP boundary is located within the Kern County ALUCP or within two miles of a public or public use airport. Additionally, no WE (Wind Energy Combining) Zoning or wind turbine generators are proposed within the ALUCP or within the sphere of influence of the airport. In fact, the closest proposed WTG as shown on the conceptual site plan prepared by the project proponent is located 3.5 miles northwest of the runway. Additionally, the total WTG height including turbine, tower, and blade, would not exceed 500 feet at its highest point because the AEWP is designed in conformance with Section 19.08.160 (Height of Structures) of the Kern County Zoning Ordinance, which limits the total height of structures to 500 feet to avoid military flight test airspace for Edwards Air Force Base. Additionally, the WTGs are required to comply with FAA Advisory Circular 70/7460-1, Obstruction Lighting/Marking, requirements and MM 4.11-7 requires that the project proponent file Form 7460-1, Notification of Proposed Construction or Alteration, with the FAA for each WTG. The FAA would then complete the requisite aeronautical study and determine the appropriate lighting required for the AEWP and the appropriate exterior finish for the WTGs for daylight marking to ensure safety.

Without mitigation, construction activities may cause a safety hazard to aircraft operations because the large cranes used to erect WTGs could pose a potential safety hazard to aircraft operations by presenting an obstruction for low-flying aircraft. However, as noted above the FAA requires a notice of proposed construction for a project so that it can determine whether it would adversely affect commercial, military, or personal air navigation safety. In order to minimize safety hazards during construction to commercial, military, or civilian air navigation, Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would require the project proponent to submit documentation to the Kern County Planning and Community Development Department and the BLM demonstrating receipt of a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA) of Form 7460-1 (Notice of Proposed Construction or Alteration). Additionally, Mitigation Measures 4.11-7 would prohibit the construction of any wind turbine generators within the boundaries of the Kern County ALUCP. With the implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage), impacts would be reduced.

The Pontious Airport in Mojave is the nearest private airstrip, located 10 miles southeast of the AEWP boundary. The Pontious Airport consists of two private use airstrips, and permission is required prior to landing. (AirNav 2011a) and would not be affected by the AEWP.

The boundary of Edwards Air Force Base, a military flight airspace, is 9.5 miles southeast of the AEWP site. Edwards Air Force Base covers nearly 308,000 acres, and contains two parallel runways oriented northeast/southwest, Runways 4/22 left and right. Edwards Air Force Base is operated by the United States Air Force, and serves air force military aircraft (AirNav, 2011d). The AEWP site is located within military based special use airspace and beneath a military designated low-level flight path. During the consultation process between the project proponent and the Department of Defense (DOD), the DOD reviewed the AEWP and facilities. In a letter dated August 4, 2011, the DOD confirmed that the entire AEWP site falls within the DOD Kern County ‘yellow’ area, and that WTGs below 500 feet in height create little to no additional mission impact beyond that form the exiting turbines in the Tehachapi area (DOD, 2011). Therefore, the DOD has no opposition to construction of the AEWP and will inform the FAA Obstruction Evaluation Group of its conclusions (DOD, 2011).

Hazardous Materials

Alternative A would not involve the routine transport, use, or disposal of hazardous materials, as defined by the Hazardous Materials Transportation Uniform Safety Act. However, a limited amount of hazardous material may be used during construction of Alternative A. This may include cleaning fluids, fuels (gasoline, diesel fuel, etc.), lubricants, cleaning solvents, paints, pesticides, and potentially explosives; and would require appropriate storage, use, and disposal. Soiled rags and similar applicators and clean up materials would also require disposal.

As discussed in Section 3.11.1.3, the site was not in any of the environmental database searches and that no properties of environmental concern were within 1 mile of the site. However, results of an Environmental Site Assessment Report prepared on February 3, 2009, showed that areas of stained soil were observed within the site around damaged electrical transformers in Section 28 (Land America, 2009). The Phase 1 Environmental Site Assessment determined that additional assessment should be conducted to identify appropriate corrective actions (Land America, 2009). This action is under preparation and will be completed prior to project construction (Land America, 2009).

The use, storage, and disposal of hazardous materials and waste associated with Alternative A could result in potential adverse health and environmental impacts associated with improper management of these materials. In general, most potential impacts are associated with the release of these materials to the environment, which could occur if the materials are improperly used, stored, or disposed of. Direct impacts of such releases could include contamination of vegetation, soil, and water, which could result in indirect impacts to human and wildlife populations. All hazardous materials would be handled and stored in compliance with the requirements set forth in the applicable codes and regulations. The project proponent and its contractor would store all paint, solvents, and any other hazardous materials in the manner specified by the manufacturer and in accordance with local, State, and federal regulations.

Construction of Alternative A would result in a potential hazard to the public or personnel if a hazardous material spill or leak were to occur. In accordance with the California Health and Safety Code, the project proponent would prepare a hazardous materials management plan which would delineate storage areas for hazardous material and hazardous waste; describe proper handling, storage, and disposal techniques; describe methods to be used to avoid spills and minimize impacts of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires. Implementation of the hazardous materials construction best management practices (BMPs) (refer to Section 2.1.3.6) would ensure that materials are handled in a safe manner and would minimize the risk of accidental releases of hazardous materials at the site. With the implementation of BMPs as part of Alternative A, impacts to the public or personnel from a hazardous material spill or leak would be reduced, but not completely avoided.

Although not observed during site reconnaissance, contamination from petroleum products (crude oil, gasoline, motor oil, and diesel) is one of the most common types of unknown contamination encountered and is generally detectable by visual and olfactory observation. Grading, drilling, or excavation at the site has the potential to mobilize hazardous materials currently in the soil. This could result in exposure of personnel and other sensitive receptors such as plants and wildlife to contaminant levels that could result in short-term and/or long-term health effects. Implementation of Mitigation Measures 4.11-6 (Spill Prevention, Control, and Countermeasures Plan) and 4.11-8 (Hazardous Materials Management) would further reduce impacts by requiring the construction contractor to stop work if suspected contamination is identified, cordon off areas of suspected contamination, take appropriate health and safety measures, have a trained individual conduct sampling and testing of suspected material, and, if contamination is found to be greater than regulatory limits, notify the Kern County Public Health Department along with the BLM and document all actions. Contamination from hazardous materials at the site would be reduced with the implementation of recommended mitigation measures, but impacts would not be completely avoided.

If blasting is required during construction, the use of explosives at the site could pose a hazard to personnel or serve as a wildfire ignition source. A large wildfire would pose hazards both to personnel and the public. Implementation of the blasting construction BMPs (refer to Section 2.1.3.6) would ensure that explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies. If blasting is required, Mitigation Measure 4.11-3 (Blasting Plan) has been recommended to ensure that impacts from blasting would be minimized. Impacts would be reduced, but not completely avoided.

Herbicides may be used for vegetation removal around the base of WTGs during construction. Herbicides used for vegetation control around towers and other AEWP facilities could result in adverse health effects to the public, maintenance personnel, wildlife, or sensitive vegetation if herbicides are handled improperly or chemical drift occurs away from the target area. The project proponent or contractor applying herbicides would have all the appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use. Mitigation Measure 4.11-4 (Herbicide Control) would avoid potential impacts from herbicide use. Adverse health effects to the public, maintenance personnel, wildlife, or sensitive vegetation would not occur.

The potential also exists for motor vehicle fuel to be released from on-site storage tanks or for transformer oil to be released at the AEWP substation if a leak were to occur, potentially resulting in a hazard to soil, water, wildlife, or personnel at the site. Implementation of the hazardous materials construction BMPs (refer to Section 2.1.3.6) would ensure that materials are handled in a safe manner and would minimize the risk of accidental releases of hazardous materials at the site. Furthermore, general construction BMPs (refer to Section 2.1.3.6) require the AEWP to comply with all measures included in the Proponent Program of Development (POD) submitted to the BLM. Within the POD, measures are identified to reduce potential fuel spills including:

- All refueling should occur in a designated fueling area that includes a temporary berm to limit the spread of any spill.
- Drip pans should be used during refueling to contain accidental releases.
- Drip pans should be used under fuel pump and valve mechanisms of any bulk fueling vehicles parked at the construction site.
- Spills should be immediately addressed per the appropriate spill management plan, and soil cleanup and soil removal initiated if needed.

With the implementation of BMPs as part of Alternative A construction, the release of motor vehicle fuel or transformer oil would be reduced, but not completely avoided.

Solid wastes produced during construction of the Alternative A would include containers, dunnage (support/padding for materials), and packaging materials for turbine components, and miscellaneous wastes associated with assembly activities. Solid wastes resulting from the presence of the construction work crews would include food scraps and other putrid or rotten wastes. All such wastes are expected to be nonhazardous, and would be containerized on site and periodically removed by commercial haulers (per hazardous materials construction BMPs identified in Section 2.1.3.6) to existing off-site, appropriately permitted disposal facilities. No adverse hazardous materials impacts from solid waste would occur.

The nearest schools to the AEWP site are the Douglas Adult School, located 2.5 miles to the southeast and Joshua Middle School, 3.2 miles to the southeast. As the AEWP is a wind energy generation facility that involves using turbines to generate electricity, AEWP-related infrastructure would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, no impacts would occur.

Public safety issues related to wind power generation facilities could arise from tower or rotor failure. If a WTG experiences excess speed, material fatigue, excessive stresses, or vibration from seismic ground shaking, a rotor blade could crack or dislocate from the turbine tower. If a blade were to be dislocated from the tower, the thrown blade could travel several hundred feet. Blade failures may occur due to extremely high winds and excess rotor speed. Setbacks required by Kern County would prevent public hazards associated with turbine or rotor blade failures.

In addition, the WTGs considered for the AEWP would be equipped with safety and engineering features to prevent excess rotor speed, to minimize the risk of tower failure, and to maintain personnel health and safety. These features include redundant aerodynamic and mechanical breaks to slow or stop the turbine's

blade rotation, active yaw system to turn the blades out of the prevailing wind direction, and an early vibration detection system to stop or slow the rotor rotation. These systems significantly reduce the probability of blade failures.

Each WTG would be controlled automatically or manually from either an interface inside the nacelle or from a control box at the bottom of the tower. Control signals would also be able to be sent from a remote computer via a Supervisory Command and Data Acquisition (SCADA) System with local lockout capability provided at the turbine controller. Service switches at the tower top would prevent service personnel at the bottom of the tower from operating certain WTG systems while service personnel are in the nacelle. To override any machine operation, emergency stop buttons located in the tower base and in the nacelle would be activated to stop the turbine in the event of an emergency.

The WTG would be mounted on top of a conical tubular tower, which would be manufactured in sections from steel plates. Access to the turbine would be through a steel door at the base of the tower. Service platforms would be provided. Access to the nacelle would be via a ladder. A fall-arresting safety system would be in place. Interior lights would be installed at critical points from the base of the tower to the top.

The nacelle would house the main components of the WTG. Access from the tower into the nacelle would be through the bottom of the nacelle. The nacelle would be ventilated and illuminated with electric light. A hatch at the front end of the nacelle would provide access to the blades and hub.

The AEWP would comply with all Kern County setback requirements set forth in zoning ordinance 19.64.140. The project proponent has accounted for setback restrictions in the AEWP design, including Kern County's setback requirements for property lines, neighboring homes, utility corridors and rights-of-way, public access easements, local and County roads, and railroads. In accordance with the WE Combining District fencing requirements, the AEWP would provide perimeter fencing to secure the site, but not in areas where unauthorized access is precluded, due to topographic conditions.

Emergency Response

Emergency Access. The site is in a rural area with several alternative roads allowing easy access to the site during an emergency. Per the public health and safety construction BMPs identified in Section 2.1.3.6, temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access. This fencing, along with perimeter fencing and security gates, could physically interfere with emergency vehicle access or personnel evacuation from the site. The type and height of this security fence, and the need for temporary security fencing around temporary construction areas, would be determined based on an assessment of risk prior to commencement of construction. It is assumed all fence gates would remain locked whenever these facilities are unattended.

During the construction phase, access roads would have gates or signs as necessary, to control public access to the site for safety reasons. Heavy construction-related traffic could interfere with emergency response to the site or emergency evacuation procedures in an emergency such as a wildfire, a natural gas pipeline explosion, or a chemical spill at the site. Heavy construction-related traffic could also potentially interfere with emergency response to residences in the AEWP vicinity.

To ensure emergency access to and within the site during construction, Mitigation Measure 4.11-5 (Emergency Response Liaison) has been included. This would require the project proponent to appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or near the AEWP site including assurance of access for emergency vehicles to the AEWP site. Additionally, as discussed in Section 4.16, Transportation and Public Access, Mitigation Measure 4.16-1 **(**Construction Traffic Control Plan**)** requires the project proponent to prepare a Construction Traffic Control Plan, which would address and ensure emergency access vehicle movement to the site. Implementation of Mitigation Measures 4.11-5 (Emergency Response Liaison) and 4.16-1 **(**Construction Traffic Control Plan**)** would reduce impacts to emergency access.

Increased Need for or Alter Police/Sheriff Protection Services. The Mojave Substation of the KCSD would be the primary responder to the AEWP site and it is anticipated that it would take 20 minutes or more to respond to a call. Based on similar alternative energy projects in the surrounding area, the KCSD does not anticipate the need for additional staffing to handle any increase in activity (e.g., thefts, trespassing complaints, peace disturbances, and emergencies) created by this project.

The AEWP may attract vandals or other security risks and potentially increase traffic along SR-58 that would increase demand on police protection/law enforcement services. However, the AEWP site is in a remote location surrounded by vacant land and rural communities and is unlikely to attract attention and make AEWP facilities susceptible to crime. Nevertheless, as noted above, the project proponent would implement security measures for AEWP security fencing around the perimeter of the substation(s) for safety and security purposes, and all other AEWP fencing requirements would be evaluated and the best-fit scenario would be incorporated into the AEWP based upon the final determination by Kern County. In addition, fencing would be installed in accordance with Kern County Ordinance requirements. Based on current Kern County ordinances, the project proponent may fence the exterior boundary of the WTG development area or choose to fence each WTG cluster or row independently. At this time, it has not been determined which of these options would best accommodate the needs of the AEWP stakeholders.

Security services would likely be provided during construction and any additional security for additional phases would be provided on an as-needed basis. The security personnel would be assigned the responsibility of controlling egress and ingress, safety requirements, and all other policies for the control of the site area during the construction phase. After construction, these duties would fall under the control of the assigned operations and maintenance provider. These measures would minimize the need for police surveillance and response.

AEWP personnel commuting to the AEWP site via nearby highways (SR-14 and SR-138) could increase services required by the CHP in the event of accident or traffic violations. AEWP personnel would be required to adhere to all federal and State traffic laws. The additional volume of traffic associated with workers commuting to the site during construction and with permanent personnel during operation is not expected to exceed the CHP's ability to patrol the highways.

Increased Need for or Alter, Fire Protection Services. As noted in Section 3.21, Wildland Fire Ecology, the primary Kern County Fire Station serving the AEWP would likely be Station 14 in Mojave. During the construction phase, heavy equipment and passenger vehicles driving on vegetated areas before clearing and grading could increase the danger of fire. Heated mufflers could ignite surrounding vegetation. In addition, during operation, lightning strikes on WTGs could create power surges and start a fire. As a result, construction and operation of the AEWP would have a significant potential to cause wildfires.

Increase Need for or Alter, Medical Services. During construction, the addition of 262 peak construction workers may temporarily increase the need for EMS should a medical emergency occur. However, because access to the AEWP site would be restricted to properly trained construction workers, the likelihood of accidents and thus the need for emergency medical care would be reduced. In addition, 4.11.-2 (Hazardous Materials Business Plan) will require that the project proponent prepare a Hazardous Materials Business Plan, which would further reduce the potential for AEWP-related emergency incidents to occur during construction. Nevertheless, the potential exists for some accidents to occur during construction; however, the small number of accidents that may occur is not expected to place undue pressure on existing capacity for medical services. As described above, there are three hospitals in the AEWP vicinity that are expected to have adequate capacity to provide emergency services for potential AEWP-related incidents, therefore, additional medical and/or emergency personnel or facilities would not be required.

Increase Need for or Alter, Schools, Parks and other public facilities. The nearest schools to the AEWP site are the Douglas Adult School, located 2.5 miles to the southeast and Joshua Middle School,

3.2 miles to the southeast. Construction of the AEWP may result in a minor increase in population due to the construction force; however, this impact will be temporary and limited to the construction period. Additionally, the AEWP is a wind energy generation facility that does not include new residential housing, a need for additional school facilities would not be generated by the AEWP and no impacts would occur. As discussed in Section 4.12.3.2 (Recreation) of this document, construction impacts to recreation would be less than significant with mitigation.

Public Health

Inhalation of airborne spores is possible after soil disturbance. If the site is underlain by soils containing the spores, construction activities could release spores and expose workers. The current public health status of residents of rural Kern County is evaluated as it relates to environmental health factors that could be potentially affected by Alternative A. Vector-borne disease incidence is a potential issue of concern related to construction.

Vector-Borne Diseases Implementation of Alternative A will involve construction that could result in small areas of standing water from dewatering activities and batch plant operations, trash piles, or open containers that could provide breeding areas for mosquitoes, flies, or rodents. These potential disease vectors could pose a hazard to personnel or the public. Mitigation Measure 4.11-8 (Hazardous Materials Management) would prohibit standing water, trash piles, and open containers from accumulating at the site.

Construction of Alternative A would occur in an area favorable to the growth of the Valley Fever vector, the fungus *Coccidioides immitis*, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. AEWP construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. In extreme cases the disease can be fatal. The air emission construction BMPs identified in Section 2.1.3.6, require a number of dust suppression activities during AEWP construction. These dust suppression techniques would minimize the spread of fungal spores and would reduce impacts regarding Valley Fever, but impacts would not be completely avoided.

Intentionally Destructive Acts

Depending on the severity of the event, an intentionally destructive act could damage or destroy fixed components of a wind facility, resulting in economic, safety, and environmental consequences. Equipment used in constructing the wind facility could also be impacted, potentially resulting in loss of life. Consequences of an intentionally destructive act, including sabotage or terrorist attack on a wind facility would be expected to be similar to those discussed under seismic hazards and hazardous materials regarding accidental and natural events. The potential consequences of such events would be site-specific, unable to forecast, and unlikely to occur.

Operation and Maintenance

Aircraft Operations

As noted above, the nearest public airstrip is the Mojave Air and Spaceport, located in the adjacent community of Mojave. The northern edge of the runway is located approximately 3 miles southeast of the closest portion of the AEWP boundary. Portions of the AEWP boundary (publically owned BLM property) located within Section 26 are within Zone C of the Airport Land Use Compatibility Plan (ALUCP) and the entire section is within the Sphere of Influence for the airport. Though portions of the AEWP boundary are within the ALUCP, no WTGs or WE Zoning is proposed within the boundaries of the ALUCP or within Sphere of Influence of the airport. In fact, the closest proposed WTG as shown on the conceptual site plan prepared by the project proponent, is located 3.5 miles northwest of the runway. As also noted above, the total WTG height including turbine, tower, and blade, would not exceed 500 feet

at its highest point because the AEWP is designed in conformance with Section 19.08.160 (Height of Structures) of the Kern County Zoning Ordinance, which limits the total height of structures to 500 feet to avoid military flight test airspace for Edwards Air Force Base. Additionally, the WTGs are required to comply with FAA Advisory Circular 70/7460-1, Obstruction Lighting/Marking, requirements and Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) requires that the project proponent file Form 7460-1, Notification of Proposed Construction or Alteration, with the FAA for each WTG. The FAA would then complete the requisite aeronautical study and determine the appropriate lighting required for the AEWP and the appropriate exterior finish for the WTGs for daylight marking to ensure safety. Mitigation Measure 4.11-7 also states that no wind turbine generators shall be constructed within the boundaries of the ALUCP.

Besides the height of the WTGs, other operational hazards to flight could include visual and electronic forms of interference with aircraft operations; including lighting and increases in the level of attraction to birds. Wind energy projects sufficiently close to airports pose a potential hazard to aviation due to the possibility of electromagnetic interference from the power plant and transmission lines.

If an installed wind energy development project results in electromagnetic interference, the project proponent shall work with the owner of the impacted communications system to resolve the problem (see public health and safety operational BMPs identified in Section 2.1.3.6). Additional warning information may also be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized. Additionally, as discussed above, the FAA requires a notice of proposed construction for a project so that it can determine whether it would adversely affect commercial, military, or personal air navigation safety. Implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage)would reduce safety hazards during operation and maintenance to commercial, military, or civilian air navigation, but impacts would not completely be avoided. As previously mentioned under "Construction," the DOD has no opposition to construction and will inform the FAA Obstruction Evaluation Group of its conclusions (DOD, 2011).

Hazardous Materials

Operation of Alternative A would require the use of limited amounts of various petrochemicals, including fuels, lubricants, and solvents to operate and maintain equipment for maintenance activities. AEWP operations would likely require the use of transformer oil at the Alternative A substation and storage of propane for heating the O&M facility.

Operation of the AEWP could result in a potentially significant hazard to the public or personnel if a hazardous material spill or leak were to occur. The potential also exists for motor vehicle fuel to be released from on-site storage tanks or for transformer oil to be released at the AEWP substation if a leak were to occur, potentially resulting in a hazard to soil, water, wildlife, or personnel. General operation BMPs (refer to Section 2.1.3.6) require the Alternative A to comply with all measures included in the project proponent Program of Development (POD) submitted to the BLM. The POD identifies measures to reduce potential fuel spills during operation including:

- All refueling should occur in a designated fueling area that includes a temporary berm to limit the spread of any spill.
- Drip pans should be used during refueling to contain accidental releases.
- Drip pans should be used under fuel pump and valve mechanisms of any bulk fueling vehicles parked at the construction site.
- Spills should be immediately addressed per the appropriate spill management plan, and soil cleanup and soil removal initiated if needed.

Implementation of these BMPs would reduce potential impacts from the release of motor vehicle fuel or transformer oil, but impacts would not be completely avoided.

Solid wastes produced during the operational phase would be very limited and consist primarily of office-related wastes generated at the O&M facility and food wastes from the maintenance crews present on the site during business hours. All such wastes are expected to be nonhazardous, and would be containerized on site and periodically removed by commercial haulers to existing off-site, appropriately permitted disposal facilities. No adverse impacts related to solid waste would occur.

Emergency Response

Emergency Access. The site is in a rural area with several roads allowing easy access to the site in an emergency. However, perimeter fencing and security gates could physically interfere with emergency vehicle access or personnel evacuation from the AEWP site. During AEWP operation and maintenance, minimal traffic is expected to occur and is not likely to interfere with emergency response activities. As discussed in Section 4.16, Transportation and Public Access, Mitigation Measure 4.16-4 (Coordination with County Roads Department) ensures all access roads will be designed consistent with Kern County standards and require approval of the Kern County Roads Department. Completion of access roads consistent with these standards would ensure adequate emergency access and movement within the site.

Increased Need for or Alter Police/Sheriff Protection Services. As noted above, the Mojave Substation of the KCSD would be the primary responder to the AEWP site and it is anticipated that it would take 20 minutes or more to respond to a call. Based on similar alternative energy projects in the surrounding area, the KCSD does not anticipate the need for additional staffing to handle any increase in activity (e.g., thefts, trespassing complaints, peace disturbances, and emergencies) created by Alternative A.

Increased Need for or Alter, Fire Protection Services. As noted in Section 3.21, Wildland Fire Ecology, the primary Kern County Fire Station serving the AEWP would likely be Station 14 in Mojave. If a fire were to occur, it is anticipated that personnel and equipment from KCFD's Rosamond Station would respond to a fire at the AEWP site.

Increase Need for or Alter, Medical Services. During operation, emergency incidents involving any of the 8 to 12 full-time/part-time staff at each O&M facility would not be expected to overwhelm current medical services capacity..

Increase Need for or Alter, Schools, Parks and other public facilities. The nearest schools to the AEWP site are the Douglas Adult School, located 2.5 miles to the southeast and Joshua Middle School, 3.2 miles to the southeast. Operation and maintenance of the AEWP may result in a minor increase in population due to the construction force; however, the AEWP does not result in a substantial number of new permanent jobs. Additionally, the AEWP is a wind energy generation facility that does not include new residential housing, a need for additional school facilities would not be generated by the AEWP and no impacts would occur. As discussed in Section 4.12.3.2 (Recreation) of this document, operation and maintenance impacts to recreation would be less than significant with mitigation.

Public Health

Operations of Alternative A could potentially affect public health status of residents of rural Kern County. Vector-borne disease incidence, potential for Valley Fever, as well as potential issues related to shadow flicker and electro-magnetic fields (EMFs) are potential issues of concern related to AEWP operations.

Vector-Borne Diseases. As with construction, implementation of the AEWP may involve operations activities that could result in small locations of standing water, trash piles, or open containers that could provide breeding areas for mosquitoes, flies, or rodents. These potential disease vectors could pose a hazard to personnel or the public. Mitigation Measure 4.11-8 (Hazardous Materials Management) would prohibit standing water, trash piles, and open containers from being accumulated at the site.

Valley Fever. Operations and maintenance activities could potentially disturb soil and cause fungal spores related to Valley Fever to become airborne, potentially putting operations personnel and wildlife at

risk. However, unlike construction, soil disturbance during operations would be occasional and of a reduced magnitude. Therefore operations activities are unlikely to cause impacts to public health.

Shadow Flicker. Please see Section 4.18, Visual Resources, for the discussion on shadow flicker.

Wind Turbine Syndrome (WTS). WTS is described as an illness in certain individuals that is potentially caused by wind turbine noise and vibration resulting in sleep disturbance, nausea, tinnitus, and other symptoms. As discussed in Section 3.11.1.5, there is no known dose-response relationship between exposure to wind turbine noise/vibration and health effects. A single study prepared in 2009 (Pierpoint) reported a correlation between distance to large (1.5 to 3 MW) wind turbines and WTS, and suggested that symptoms are eliminated by siting wind turbines a minimum of 1.25 miles away from sensitive receptors. However, the small clinical case study does not support a dose-response relationship, and more research is needed to identify whether wind turbine noise and vibration may cause the reported symptoms. Without any recognized regulatory guidance or thresholds related to WTS, potential impacts cannot be quantified or qualified.

Electromagnetic Fields. Electric voltage (electric field) and electric current (magnetic field) from transmission lines create EMFs. Currently, the State has not adopted any specific limits or regulation on EMF levels related to electric power facilities. The AEWP involves the installation of an electrical collection system that will include an overhead 230 kV transmission line to connect to the Windhub Substation. The proposed transmission line would occur within an existing and established utility right-of-way and there are no nearby sensitive receptors. As such, long-term exposure to EMFs related to the collection and transmission line is not expected to occur.

WTG Safety. Public safety issues related to wind power plants could arise from tower or rotor failure. As discussed in Section 2.1.2.3, Structures and Facilities, the WTGs considered for the AEWP would be equipped with safety and engineering features to prevent excess rotor speed, to minimize the risk of tower failure, and to maintain personnel health and safety. These features include redundant aerodynamic and mechanical breaks to slow or stop the turbine's blade rotation; pitch and yaw controls to angle and position and the turbine blades relative to the wind, thereby allowing the WTGs to adapt to different wind speeds and directions and maximize power output; and vibration, temperature, and fire detection systems in the nacelle and tower. In the event of a fire fault or excess vibration or temperature, the WTG would be halted immediately, and an alarm condition would be activated in the control system. These systems substantially reduce the probability of rotor failures.

As discussed in Section 2.1.2.3, Structures and Facilities, all the candidate WTGs would be equipped with a controller, which automatically regulates the operation of the WTG. The controller is responsible for startup, shutdown, pitch control, yaw control, and safety monitoring. A central Supervisory Control and Data Acquisition (SCADA) system would monitor the WTGs, allowing for centralized operation and optimized operations and maintenance. If a control parameter deviates from its normal operating range, the controller would automatically shut down the WTG and notify the operating technicians of the fault. In many situations, the controller would analyze the data and restart the WTG if the fault were corrected or the operating conditions returned to normal. If the fault reoccurred, the controller might require a manual start. A controller cabinet would also be located at the base inside each tower and inside the nacelle for manual control.

The nearest residential receptors are located on Kern County lands. Alternative A would comply with all Kern County setback requirements set forth in zoning ordinance 19.64.140. The project proponent has accounted for setback restrictions in the project design, including Kern County's setback requirements for property lines, neighboring homes, utility corridors and rights-of-way, public access easements, local and County roads, and railroads. As discussed in Section 2.1.2.3, Structures and Facilities, perimeter fencing is proposed to secure the Alternative A site. Setbacks required by Kern County and fencing would prevent public hazards associated with rotor failures.

Discussion of seismic hazards is discussed in Section 4.14, Geology and Soil Resources.

Ice Throw. Specific weather conditions may cause ice to form on the surface of wind turbine blades. Ice build-up on wind turbine blades can fall off while the wind turbine is stationary. If this occurs during high winds, the ice could be blown by the wind some distance from the wind turbine tower. It is also conceivable that ice could be thrown from a moving wind turbine blade under some circumstances, although that would most likely occur only during startup (while the rotational speed is still relatively low) (MDEP and MDPH, 2012). The distance that a piece of ice may travel from the WTG is a function of the wind speed, the operating conditions, and the shape of the ice (MDEP and MDPH, 2012). In most cases, ice falls within a distance from the WTG equal to the tower height, and in any case, very seldom does the distance exceed twice the total height of the turbine (tower height plus blade length) (MDEP and MDPH, 2012). The nearest structure or facility outside of the AEWP boundary to a proposed WTG would be more than 500 feet. This distance would be nearly double the length of a proposed WTG tower to the hub of the rotor blades (80 meters or 262 feet). Therefore, the potential for ice throw from a proposed WTG blade at the project site affecting a structure or facility outside of the AEWP boundary would be low.

As shown in Figure 3.9-2, the nearest residences to a proposed WTG would be located more than 500 feet directly east of the AEWP site on the north side of SR 58. Due to the direction of prevailing winds (west and west-northwest), if ice throw were to occur, the direction of ice throw may have more potential to occur in a north-south or northeast-southwest direction. Therefore, the WTG movement based on prevailing winds may further reduce the likelihood for ice throw to affect these residences outside of the AEWP boundary. Therefore, potential impacts are considered less than significant.

Intentionally Destructive Acts

Fixed components of a wind facility could be damaged or destroyed from an intentionally destructive act, resulting in economic, safety, and environmental consequences. Equipment used in servicing the wind facility could also be impacted, potentially resulting in loss of life. In general, the consequences of an intentionally destructive act, including sabotage or terrorist attack, on a wind facility would be expected to be similar to those discussed under seismic hazards and hazardous materials regarding accidental and natural events. The potential consequences of such events would be site-specific and unlikely to occur.

Decommissioning

Aircraft Operations

Safety hazards to aircraft operations would potentially occur during decommissioning of Alternative A. As discussed earlier under "Construction" and "Operation and Maintenance," the FAA requires a notice of proposed construction for a project so that it can determine whether it would adversely affect commercial, military, or personal air navigation safety. Implementation of a measure similar to Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would reduce safety hazards during decommissioning to commercial, military, or civilian air navigation, but impacts would not be completely avoided. As wind turbines are dismantled during decommissioning, potential safety hazards to aircraft operations would be eliminated.

Hazardous Materials

The dismantling of Alternative A facilities could result in substantial quantities of solid wastes and industrial wastes. Fluids drained from turbine drivetrain components (e.g., lubricating oils, hydraulic fluids, coolants) are likely to be similar in chemical composition to spent fluids removed during routine maintenance and would be managed in the same manner as analogous maintenance-related wastes. Tower segments are expected to be stored on site for a brief period and eventually sold as scrap. Likewise, turbine

components (emptied of their fluids) may have some salvage value. Recycling turbine components would diminish any impacts created by solid wastes during decommissioning. Electrical transformers are expected to be removed from the site and available for other applications elsewhere (in most cases, without the need for removing dielectric fields). Decommissioning would also result in substantial amounts of broken concrete from tower and building foundations as well as rock or gravel from on-site roads or electrical substations. All such materials are expected to be salvageable for use in road-building or bank stabilization projects. Miscellaneous materials without salvage value are expected to be nonhazardous and should be removed from the site by a licensed hauler and delivered to appropriately permitted disposal facilities.

As discussed under "Construction" and "Operation and Maintenance," implementation of BMPs similar to those identified for AEWP construction, as well as measures similar or identical to Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management) would reduce potential impacts from the use of hazardous materials at the site. After decommissioning activities, Alternative A would no longer use hazardous materials.

Emergency Response

Similar to the construction phase, during decommissioning, gates or signs would be installed on access roads, as necessary, to control public access to the site for safety reasons. Heavy traffic could interfere with emergency response to the site or evacuation procedures during an emergency such as a wildfire, a natural gas pipeline explosion, or a chemical spill. Heavy traffic could also potentially interfere with emergency response to residences in the Alternative A vicinity. To ensure emergency access to the AEWP site during decommissioning, measures similar or identical to Mitigation Measures 4.11-5 (Emergency Response Liaison) and 4.16-1 (Construction Traffic Control Plan), which would require the project proponent to appoint an Emergency Response Liaison to coordinate the reduction of traffic for the duration of any emergency at or nearby the project site and prepare a Construction Traffic Control Plan, would reduce impacts to emergency access, but impacts would not be completely avoided. After decommissioning activities are completed, potential impacts to emergency response associated with Alternative A would no longer exist.

Public Health

Decommissioning activities are expected to have similar public health impacts as construction of Alternative A. Vector-borne disease incidences would be the primary potential issue of concern related to decommissioning activities.

Vector Borne Diseases. As with construction, decommissioning activities could result in standing water, trash piles, or open containers that could provide breeding areas for mosquitoes, flies, or rodents. These potential disease vectors could pose a hazard to personnel or the public. Implementing a measure similar or identical to Mitigation Measure 4.11-8 (Hazardous Materials Management) during decommissioning would prohibit standing water, trash piles, and open containers from accumulating at the site.

Valley Fever. Decommissioning of Alternative A would occur in an area favorable to the growth of the Valley Fever vector. Decommissioning activities could disturb soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. BMPs and mitigation similar or identical to those required and included as part of Alternative A for dust control would minimize the spread of fungal spores during decommissioning activities.

Intentionally Destructive Acts

Depending on the severity of the event, an intentionally destructive act could damage fixed components of a wind facility, resulting in economic, safety, and environmental consequences. Equipment used in

dismantling the wind facility could also be impacted, potentially resulting in loss of life. Consequences of an intentionally destructive act, including sabotage or terrorist attack on a wind facility would be expected to be similar to those discussed under seismic hazards and hazardous materials regarding accidental and natural events. The potential consequences of such events would be site specific and unlikely to occur.

After decommissioning activities are completed, potential impacts from intentionally destructive acts associated with the AEWP would no longer exist.

4.11.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of Alternative A (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.11.2. Only those significance criteria determined in Section 4.11.2 to be relevant to Alternative A are addressed below.

Construction

- **PH-1** *(For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area)* **and PH-2** *(For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project).* Implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would ensure that Alternative A impacts to CEQA significance criteria PH-1 and PH-2 would be less than significant.
- **PH-3** *(Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials)* **and PH-4** *(Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment).* With implementation of BMPs and Mitigation 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-5 (Emergency Response Liaison), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-3 and PH-4 would be less than significant.
- **PH-5** *(Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school)* **and PH-6** *(Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) that would create a significant hazard to the public or the environment).* With implementation of BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-5 (Emergency Response Liaison), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-5 and PH-6 would be less than significant.
- **PH-7** *(Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan)* **and PH-8** *(Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and police protection and emergency response).* Implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management) would reduce the potential for construction and maintenance activities to result in severe fires by requiring fire-safe construction and maintenance practices. If a fire were to occur, it is anticipated that personnel and equipment from KCFD's Rosamond Station would respond to a fire at the AEWP

site. Mitigation Measure 4.11-1 (Sales and Use Tax) would address any potential increase and will require that the project proponent work with County staff to determine how the receipt of sales and use taxes related to the construction of the AEWP will be maximized. With implementation of Mitigation Measure 4.11-1 (Sales and Use Tax), 4.11-5 (Emergency Response Liaison) and 4.16-1 (Construction Traffic Control Plan), Alternative A impacts to CEQA significance criteria PH-7 and PH-8 would be less than significant.

- **PH-9** (*Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs*) **and PH-10** *(Comply with federal, state, and local statutes and regulations related to solid waste).*With implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criterion PH-9 and PH-10 would be less than significant.
- **PH-11** *(Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors: occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and, Aare associated with design, layout, and management of project operations; and, disseminate widely from the property; and, cause detrimental effects on the public health or well-being of the majority of the surrounding population).* With implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criterion PH-11 would be less than significant.

Operation and Maintenance

- **PH-1** *(For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area)* **and PH-2** *(For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project).* Implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would ensure that Alternative A impacts to CEQA significance criteria PH-1 and PH-2 would be less than significant.
- **PH-3** *(Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials)* **and PH-4** *(Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment).* With implementation of BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-3 and PH-4 would be less than significant.
- **PH-5** *(Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school)* **and PH-6** *(Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) that would create a significant hazard to the public or the environment).* With implementation of BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-5 and PH-6 would be less than significant.
- **PH-7** *(Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan)* **and PH-8** *(Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered*

government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and police protection and emergency response). Implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management) would reduce the potential for construction and maintenance activities to result in severe fires by requiring fire-safe construction and maintenance practices. If a fire were to occur, it is anticipated that personnel and equipment from KCFD's Rosamond Station would respond to a fire at the project site. Mitigation Measure 4.11-1 (Sales and Use Tax) would address any potential increase and will require that the project proponent work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. With implementation of Mitigation Measure 4.11-1 (Sales and Use Tax), 4.11-8 (Hazardous Materials Management). Alternative A impacts to CEQA significance criteria PH-7 and PH-8 would be less than significant.

- **PH-9**(*Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs*) **and PH-10** *(Comply with federal, state, and local statutes and regulations related to solid waste).* With implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criterion PH-9 and PH-10 would be less than significant.
- **PH-11** *(Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors: occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and, are associated with design, layout, and management of project operations; and, disseminate widely from the property; and, cause detrimental effects on the public health or wellbeing of the majority of the surrounding population).* With implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management) Alternative A impacts to CEQA significance criterion PH-11 would be less than significant**.**

Decommissioning

- **PH-1** *(For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area)* **and PH-2** *(For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project).* Implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would ensure that Alternative A impacts to CEQA significance criteria PH-1 and PH-2 would be less than significant.
- **PH-3** *(Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials)* **and PH-4** *(Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment).* With implementation of BMPs and Mitigation 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-5 (Emergency Response Liaison), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-3 and PH-4 would be less than significant.
- **PH-5** *(Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school)* **and PH-6** *(Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) that would create a significant hazard to the public or the environment).* With implementation of

BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-5 (Emergency Response Liaison), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-5 and PH-6 would be less than significant.

- **PH-7** *(Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan)* **and PH-8** *(Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and police protection and emergency response).* Mitigation Measure 4.11-1 (Sales and Use Tax) would address any potential service demand and will require that the project proponent work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. With implementation of Mitigation Measure 4.11-1 (Sales and Use Tax), 4.11-5 (Emergency Response Liaison) and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-7 and PH-8 would be less than significant.
- **PH-9** (*Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs*) **and PH-10** *(Comply with federal, state, and local statutes and regulations related to solid waste).* With implementation of Mitigation Measure 4.11-8 8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criterion PH-9 and PH-10 would be less than significant.
- **PH-11** *(Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors: occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and, Aare associated with design, layout, and management of project operations; and, disseminate widely from the property; and, cause detrimental effects on the public health or wellbeing of the majority of the surrounding population).* With implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criterion PH-11 would be less than significant.

4.11.4 Alternative B: Revised Site Layout

4.11.4.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for Alternative B is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Aircraft Operations

Potential safety hazard impacts to aircraft operations during construction of Alternative B would be the same as described for construction of Alternative A.

Hazardous Materials

Potential hazardous materials impacts during construction of Alternative B would be the same as described for the construction of the Alternative A.

Emergency Response

Potential impacts to emergency response during construction of Alternative B would be the same as described for the construction of Alternative A.

Public Health

Potential impacts to public health during construction of Alternative B would be the same as described for the construction of Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative B would be the same as described for the construction of Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

Operation and Maintenance

Aircraft Operations

Potential safety hazard impacts to aircraft operations during operation and maintenance of Alternative B would be the same as described under "Operation and Maintenance" for the Alternative A.

Hazardous Materials

Potential hazardous materials impacts during operation and maintenance of Alternative B would be the same as described under "Operation and Maintenance" for the Alternative A.

Emergency Response

Potential impacts to emergency response during operation and maintenance of Alternative B would be the same as described under "Operation and Maintenance" for the Alternative A.

Public Health

Potential impacts to public health during operation and maintenance of Alternative B would be the same as described under "Operation and Maintenance" for the Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative B would be the same as described under "Operation and Maintenance" for the Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

Decommissioning

Aircraft Operations

Potential safety hazard impacts to aircraft operations during decommissioning of Alternative B would be the same as described under "Decommissioning" for the Alternative A.

Hazardous Materials

Potential hazardous materials impacts during decommissioning of Alternative B would be the same as described under "Decommissioning" for the Alternative A.

Emergency Response

Potential impacts to emergency response during decommissioning of Alternative B would be the same as described under "Decommissioning" for the Alternative A.

Public Health

Potential impacts to public health during decommissioning of Alternative B would be the same as described under "Decommissioning" for the Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative B would be the same as described under "Decommissioning" for the Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

4.11.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Significance conclusions for the impacts identified for each phase of Alternative B (Construction, Operation and Maintenance, Decommissioning) would be the same as described above for Alternative A, based on the CEQA Significance Criteria presented in Section 4.11.2. Potential impacts of Alternative B would be less than significant.

4.11.5 Alternative C: Reduced Project North

4.11.5.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for Alternative C is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Aircraft Operations

Potential safety hazard impacts to aircraft operations during construction of Alternative C would be the same as described for construction of Alternative A.

Hazardous Materials

Potential hazardous materials impacts during construction of Alternative C would be the same as described for the construction of the Alternative A.

Emergency Response

Potential impacts to emergency response during construction of Alternative C would be the same as described for the construction of Alternative A.

Public Health

Potential impacts to public health during construction of Alternative C would be the same as described for the construction of Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative C would be the same as described for the construction of Alternative A.

Operation and Maintenance

Aircraft Operations

Potential safety hazard impacts to aircraft operations during operation and maintenance of Alternative C would be the same as described under "Operation and Maintenance" for the Alternative A.

Hazardous Materials

Potential hazardous materials impacts during operation and maintenance of Alternative C would be the same as described under "Operation and Maintenance" for the Alternative A (Proposed Action

Emergency Response

Potential impacts to emergency response during operation and maintenance of Alternative C would be the same as described under "Operation and Maintenance" for the Alternative A.

Public Health

Potential impacts to public health during operation and maintenance of Alternative C would be the same as described under "Operation and Maintenance" for the Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative C would be the same as described under "Operation and Maintenance" for the Alternative A.

Decommissioning

Aircraft Operations

Potential safety hazard impacts to aircraft operations during decommissioning of Alternative C would be the same as described under "Decommissioning" for the Alternative A.

Hazardous Materials

Potential hazardous materials impacts during decommissioning of Alternative C would be the same as described under "Decommissioning" for the Alternative A.

Emergency Response

Potential impacts to emergency response during decommissioning of Alternative C would be the same as described under "Decommissioning" for the Alternative A.

Public Health

Potential impacts to public health during decommissioning of Alternative C would be the same as described under "Decommissioning" for the Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative C would be the same as described under "Decommissioning" for the Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

4.11.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Significance conclusions for the impacts identified for each phase of Alternative C (Construction, Operation and Maintenance, Decommissioning) would be the same as described above for Alternative A, based on the CEQA Significance Criteria presented in Section 4.11.2. Potential impacts of Alternative C would be less than significant.

4.11.6 Alternative D: Reduced Project Southwest

4.11.6.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts for Alternative D is organized according to the following project phases: construction; operation and maintenance; and decommissioning.

Construction

Aircraft Operations

Potential safety hazard impacts to aircraft operations during construction of Alternative D would be the same as described for construction of Alternative A.

Hazardous Materials

Potential hazardous materials impacts during construction of Alternative D would be the same as described for the construction of the Alternative A.

Emergency Response

Potential impacts to emergency response during construction of Alternative D would be the same as described for the construction of Alternative A.

Public Health

Potential impacts to public health during construction of Alternative D would be the same as described for the construction of Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative D would be the same as described for the construction of Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

Operation and Maintenance

Aircraft Operations

Potential safety hazard impacts to aircraft operations during operation and maintenance of Alternative D would be the same as described under "Operation and Maintenance" for the Alternative A.

Hazardous Materials

Potential hazardous materials impacts during operation and maintenance of Alternative D would be the same as described under "Operation and Maintenance" for the Alternative A.

Emergency Response

Potential impacts to emergency response during operation and maintenance of Alternative D would be the same as described under "Operation and Maintenance" for the Alternative A.

Public Health

Potential impacts to public health during operation and maintenance of Alternative D would be the same as described under "Operation and Maintenance" for the Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative D would be the same as described under "Operation and Maintenance" for the Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

Decommissioning

Aircraft Operations

Potential safety hazard impacts to aircraft operations during decommissioning of Alternative D would be the same as described under "Decommissioning" for the Alternative A.

Hazardous Materials

Potential hazardous materials impacts during decommissioning of Alternative D would be the same as described under "Decommissioning" for the Alternative A.

Emergency Response

Potential impacts to emergency response during decommissioning of Alternative D would be the same as described under "Decommissioning" for the Alternative A.

Public Health

Potential impacts to public health during decommissioning of Alternative D would be the same as described under "Decommissioning" for the Alternative A.

Intentionally Destructive Acts

Potential impacts from intentionally destructive acts, including sabotage or terrorism during construction of Alternative D would be the same as described under "Decommissioning" for the Alternative A. The potential consequences of such events would be site-specific and unlikely to occur.

4.11.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Significance conclusions for the impacts identified for each phase of Alternative D (Construction, Operation and Maintenance, Decommissioning) would be the same as described above for Alternative A, based on the CEQA Significance Criteria presented in Section 4.11.2. Potential impacts of Alternative D would be less than significant.

4.11.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.11.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve Alternative A and would not amend the California Desert Conservation Area (CDCA) Plan. As a result, no wind energy project would be constructed, and the BLM and Kern County would continue to manage the site lands under their jurisdiction consistent with the existing land use designation in the CDCA Plan (as amended) and Kern County General Plan and Zoning Code. No action would occur and existing conditions relevant to public health and safety would continue. No impacts associated with the AEWP or alternatives would occur. The land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan and Kern County regulations, including another renewable energy project. If the AEWP or an alternative is not approved, renewable energy projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/Federal mandates. Potential adverse impacts to public health and safety on non-BLM-administered lands under the No Action alternative could increase in the event developers focus their wind energy development efforts on state-owned, Tribal, and private lands. While wind energy development on nonfederal lands is subject to a wide array of environmental reviews and approvals by virtue of state and local permitting processes, they may not be subject to NEPA requirements if federal funding or permitting is not required for the project.

4.11.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

Alternative E would not result in impacts to public health and safety.

4.11.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.11.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and BLM would amend the CDCA Plan to make the BLM portions of the site unavailable for future wind energy development. As a result, no wind energy project would be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Land Use Plan of 1980, as amended. No action would occur and no future wind development of the BLM portion of the AEWP site would occur. Existing conditions relevant to public health and safety would continue, but may be altered at some point in the future by construction of a project other than wind energy development. No impacts associated with the AEWP or an alternative would occur. However, in the absence of this project, other renewable energy projects may be constructed to meet state and federal mandates, and those projects would have similar impacts in other locations.

4.11.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would not result in impacts to public health and safety.

4.11.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

4.11.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and BLM would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site. No action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP would occur. In the future, if another wind development project is implemented, similar impacts to public health and safety as those described for the AEWP could occur.

4.11.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

As a future wind development project would likely be implemented under Alternative G, the public health and safety significance determinations for Alternative G are assumed to be similar or the same as those described for Alternative A.

4.11.10 Cumulative Impacts

4.11.10.1 Geographic Extent/Context

Cumulative impacts are two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The geographic scope for cumulative impacts from public health and safety are typically highly localized. Hazardous materials impacts and other hazards discussed in this section would primarily be within the AEWP site boundary. However, a more regional geographic area is considered pertaining to interference with emergency response as discussed below.

4.11.10.2 Existing Cumulative Conditions

The area in the vicinity of the AEWP consists of undeveloped land, open space land, and scattered rural residences. Within the undeveloped and open space land and residential areas there is little likelihood of significant soil or groundwater contamination, based on a lack of uses that would involve hazardous materials. The continued development of lands within the localized area (particularly renewable energy development) would result in the continued potential for public health and safety risk factors as any former contaminated sites undergo cleanup or are developed for new uses. However, sites with known environmental contamination would be required by law to be investigated and remediated in accordance with regulatory agency standards prior to redevelopment. In addition, areas with previously unknown contamination would likely be discovered during planning, followed by the required reporting and cleanup.

4.11.10.3 Reasonably Foreseeable Projects

A wide variety of past and present development projects could contribute to the cumulative conditions for public health and safety in regards to emergency response in the cumulative analysis area. Table 4.1-1 of this Draft EIS/EIR lists cumulative projects in the vicinity of the AEWP site and surrounding area. Consideration of the projects listed in Kern County proximate to the AEWP site identified in Table 4.1-1 and shown on Figure 4.1-1 were used to develop this analysis of cumulative effects for public health and safety.

Several types of development projects could contribute to the cumulative impact of the AEWP and alternatives, including housing development projects, commercial and industrial development, and renewable energy projects. Such past and existing projects could combine with potential impacts of the AEWP or an alternative to affect public health and safety within the geographic extent of this cumulative analysis.

Many of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Multiple projects included in the cumulative projects list described in Table 4.1-1 will undergo construction during construction of the AEWP and their overlapping effects were considered in the cumulative impacts analysis.

4.11.10.4 Construction

Aircraft Operations

The AEWP's compliance with FAA regulations per Mitigation Measures 4.11-7 (Aviation and Hazardous Materials Storage), and the FAA requirement that all other development within FAA 7460 regulations would require approval, would reduce the potential for the AEWP to combine with impacts of other projects in the area.

Hazardous Materials

A limited amount of hazardous material may be used during construction of the AEWP but would be handled and stored on-site in compliance with the requirements set forth in the applicable codes and regulations. Implementation of AEWP specific BMPs and Mitigation Measures 4.11-6 (Spill Prevention, Control and Countermeasures Plan) and 4.11-8 (Hazardous Materials Management) would reduce potential impacts. As this impact would be site-specific, it is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

If blasting is required during construction, the implementation of Mitigation Measure 4.11-3 (Blasting Plan) would ensure that impacts from blasting would be minimized. This impact would be site-specific and is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

Herbicides may be used for vegetation removal around the base of WTGs during construction. To reduce potential AEWP impacts from herbicides, implementation of Mitigation Measure 4.11-4 (Herbicide Control) would occur. This impact would be site-specific and is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

The potential also exists for motor vehicle fuel to be released from on-site storage tanks or for transformer oil to be released at the AEWP substation if a leak were to occur, potentially resulting in a hazard to soil, water, wildlife, or personnel at the AEWP site. Implementation of AEWP specific BMPs and Mitigation Measures 4.11-6 (Spill Prevention, Control and Countermeasures Plan) and 4.11-8 (Hazardous Materials Management) would reduce potential impacts from the use of hazardous materials at the AEWP site. This impact would be site-specific and is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

Emergency Response

To ensure emergency access to the AEWP site during construction, Mitigation Measure 4.11-5 (Emergency Response Liaison) and 4.16-1 (Construction Traffic Control Plan) would require the AEWP proponent appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the AEWP site and prepare a construction traffic control plan that includes assurance of access for emergency vehicles to the AEWP site.

This impact has the potential to combine with other current and future projects that would generate high volumes of traffic on area roadways and whose construction schedules overlap with that of the AEWP by creating a cumulative traffic burden on regional roadways as a result of an abundance of construction vehicles. However, given the rural nature of the AEWP area and the fact that most cumulative projects in the vicinity would not generate high volumes of traffic, the potential for a cumulative impact on emergency response is low. As such, AEWP impacts relating to emergency response and access are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

Public Health

With regard to generating disease vectors, AEWP construction could attract disease vectors by allowing standing water, trash piles, or open containers to accumulating at the site, potentially resulting in a hazard to construction personnel or the general public. However, implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management) would reduce this impact to acceptable levels. Mitigation would reduce this impact to a level that would not combine with other projects with watering activities and BMPs to keep dust site specific. Therefore, impacts of the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects.

Intentionally Destructive Acts

Depending on the severity of the event, fixed components of a wind facility could be damaged or destroyed, resulting in economic, safety, and environmental consequences. Equipment used in constructing the wind facility could also be impacted, potentially resulting in loss of life. In general, the consequences of an intentionally destructive act, including sabotage or terrorist attack on a wind facility would be expected to be similar to those discussed under seismic hazards and hazardous materials regarding accidental and natural events. The potential consequences of such events would be site-specific and unlikely to occur. As such, AEWP impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

4.11.10.5 Operation and Maintenance

Aircraft Operations

Compliance with FAA regulations per Mitigation Measures 4.11-7 (Aviation and Hazardous Materials Storage) , and the FAA requirement of FAA approval for that all other development within FAA 7460 regulations, would reduce the potential for the AEWP to combine with impacts of other projects. Therefore, operation of the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

Hazardous Materials

Similar to the discussion under Section 4.11.10.4 (Construction), the use, storage, and disposal of hazardous materials and waste associated with the AEWP could result in potential adverse health and environmental impacts associated with improper management of these materials. Implementation of AEWP specific BMPs would reduce impacts. This impact would be site-specific and is not expected to combine with

similar impacts of past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

Similar to the discussion under Section 4.11.10.4 (Construction), operation of the AEWP would result in a potential hazard to the public or personnel if a hazardous material spill or leak were to occur. Implementation of AEWP specific BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management) would ensure that potential impacts are reduced. This impact does not have the potential to combine with contamination from spills from other projects to result in a cumulative impact due to the site-specific nature of soil contamination and implementation of hazardous materials management plan that would ensure proper cleanup and disposal of contaminated soil.

Similar to the discussion under Section 4.11.10.4 (Construction), the potential exists for motor vehicle fuel to be released from on-site storage tanks or for a leak of transformer oil to be released at the AEWP substation, potentially resulting in a hazard to soil, water, wildlife, or personnel at the AEWP site. Implementation of AEWP specific BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management) would reduce potential impacts from the use of hazardous materials at the AEWP site. This impact would be site-specific and is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

Emergency Response

During AEWP operation and maintenance, minimal traffic is expected to occur and is not likely to interfere with emergency response activities. Furthermore, as cumulative projects identified in Table 4.1-1 would require adequate site access and movement, this impact would not combine with similar impacts of past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

Public Health

With regard to generating disease vectors, AEWP operations could potentially attract disease vectors by allowing standing water, trash piles, or open containers to accumulating at the site, potentially resulting in a hazard to construction personnel or the general public. However, implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management) would reduce this impact to acceptable levels. Mitigation would reduce this impact to a level that would not combine with other projects; therefore, impacts of the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects.

Intentionally Destructive Acts

Depending on the severity of the event, intentionally destructive acts could damage or destroy fixed components of a wind facility, resulting in economic, safety, and environmental consequences. Equipment used in servicing the wind facility could also be impacted, potentially resulting in loss of life. In general, the consequences of an intentionally destructive act, including sabotage or terrorist attack on a wind facility would be expected to be similar to those discussed under seismic hazards and hazardous materials regarding accidental and natural events. The potential consequences of such events would be site-specific and unlikely to occur. As such, AEWP impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

4.11.10.6 Decommissioning

Upon permanent closure of the AEWP, it is unknown what the potential cumulative contribution of the AEWP to public health and safety impacts could occur, as the number and proximity of cumulative proj-

ects in 30 years (expected life of the AEWP) is unknown. It is assumed that the analysis of cumulative construction impacts discussed above in Section 4.11.10.4 could occur during decommissioning.

4.11.10.7 CEQA Significance and Impact Determinations, Cumulative

Significance conclusions for the impacts identified cumulative impacts associated with Alternative A (for Construction, Operation and Maintenance, and Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.11.2.

Construction and Operation and Maintenance

- **PH-1** *(For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area)* **and PH-2** *(For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project).* Implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would ensure that Alternative A cumulative impacts to CEQA significance criteria PH-1 and PH-2 would be less than significant.
- **PH-3** *(Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials)* **and PH-4** *(Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment).* With implementation of BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criteria PH-3 and PH-4 would be less than significant.
- **PH-5** (*Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school*) **and PH-6** (*Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) that would create a significant hazard to the public or the environment*). With implementation of BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-3 (Blasting Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criteria PH-5 and PH-6 would be less than significant.
- **PH-7** (*Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan*) **and PH-8** (*Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and police protection and emergency response*). Mitigation Measure 4.11-8 (Hazardous Materials Management) will require that the project proponent pay a fee assigned pursuant to the adopted Capital Improvement Plan (CIP) over the life of the project in order to mitigate any potential impacts to fire or police protection services resulting from the project. With payment of the required fee, any additional fire and police protection services, facilities, or additional personnel required as a result of the project would be appropriately funded. Mitigation Measure 4.11-1 (Sales and Use Tax) would require the project proponent shall work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. Therefore, the project would not create a cumulative impact related to police or fire protection services. With implementation of Mitigation Measure 4.11-1 (Sales and Use Tax) and 4.11-8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criteria PH-7 and PH-8 would be less than significant.

- **PH-9**(*Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs*) **and PH-10** *(Comply with federal, state, and local statutes and regulations related to solid waste).* With implementation of Mitigation Measure 4.11-8 8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criterion PH-9 and PH-10 would be less than significant.
- **PH-11** *(Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors: occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and, Aare associated with design, layout, and management of project operations; and, disseminate widely from the property; and, cause detrimental effects on the public health or wellbeing of the majority of the surrounding population).* With implementation of Mitigation Measure 4.11-8 (Hazardous Materials Management) Alternative A cumulative impacts to CEQA significance criterion PH-11 would be less than significant**.**

Decommissioning

- **PH-1** *(For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area)* **and PH-2** *(For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project).* Implementation of Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would ensure that Alternative A cumulative impacts to CEQA significance criteria PH-1 and PH-2 would be less than significant.
- **PH-3** *(Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials)* **and PH-4** *(Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment).* With implementation of BMPs and Mitigation 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-5 (Emergency Response Liaison), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criteria PH-3 and PH-4 would be less than significant.
- **PH-5** *(Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school)* **and PH-6** *(Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) that would create a significant hazard to the public or the environment).* With implementation of BMPs and Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-3 (Blasting Plan), 4.11-4 (Herbicide Control), 4.11-5 (Emergency Response Liaison), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criteria PH-5 and PH-6 would be less than significant.
- **PH-7** *(Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan)* **and PH-8** *(Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection and police protection and emergency response).* Mitigation Measure 4.11-8 (Hazardous Materials Management) will require that the project

proponent pay a fee assigned pursuant to the adopted Capital Improvement Plan (CIP) over the life of the project in order to mitigate any potential impacts to fire or police protection services resulting from the project. With payment of the required fee, any additional fire and police protection services, facilities, or additional personnel required as a result of the project would be appropriately funded. Mitigation Measure 4.11-1 (Sales and Use Tax) would require the project proponent shall work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. Therefore, the project would not create a cumulative impact related to police or fire protection services. With implementation of Mitigation Measure 4.11-1 (Sales and Use Tax), 4.11-5 (Emergency Response Liaison) and 4.11-8 (Hazardous Materials Management), Alternative A impacts to CEQA significance criteria PH-7 and PH-8 would be less than significant.

- **PH-9** (*Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs*) **and PH-10** *(Comply with federal, state, and local statutes and regulations related to solid waste).*With implementation of Mitigation Measure 4.11-8 8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criterion PH-9 and PH-10 would be less than significant.
- **PH-11** *(Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors: occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and, Aare associated with design, layout, and management of project operations; and, disseminate widely from the property; and, cause detrimental effects on the public health or wellbeing of the majority of the surrounding population).* With implementation of Mitigation Measure 4.11-8 8 (Hazardous Materials Management), Alternative A cumulative impacts to CEQA significance criterion PH-11 would be less than significant.

4.11.11 Mitigation Measures

Mitigation Measure 4.11-1 is a CEQA measure that is required by the County. It does not apply to NEPA and would not be required by the BLM.

MM 4.11-1 **Sales and Use Tax**. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall work with County staff to determine how the receipt of sales and use taxes related to the construction of the project will be maximized. This process shall include, but is not necessarily limited to: the Project Operator obtaining a street address within the unincorporated portion of Kern County for acquisition, purchasing and billing purposes, registering this address with the State Board of Equalization, using this address for acquisition, purchasing and billing purposes associated with the project. The project proponent shall allow the County to use this sales tax information publicly for reporting purposes.

MM 4.11-2 **Hazardous Materials Business Plan**. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall prepare a Hazardous Materials Business Plan in accordance with the California Health and Safety Code and Kern County regulations and shall submit the plan to the Kern County Environmental Health Services Department and the BLM for review and approval.

The Hazardous Materials Business Plan shall delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, and disposal techniques; describe

methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and, establish public and agency notification procedures for spills and other emergencies, including fires. The project proponent shall provide the Hazardous Materials Business Plan to all contractors working on the project and shall ensure that one copy is available at the project site at all times.

MM 4.11-3 **Blasting Plan.** If blasting is required, prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall contract with a blasting contractor with experience conducting blasting activities, licensed to use Class A explosives, and licensed as a contractor in the State of California. The blasting contractor shall prepare a blasting plan for the proposed blasting activities to prevent endangering worker safety. The blasting plan shall be submitted to the BLM and to the Kern County Planning and Community Development Department in consultation with the Kern County Public Health Services Department, the Kern County Fire Department, and the Eastern Kern County Air Pollution Control District. The blasting plan shall:

1. Describe procedures to be implemented to protect workers during blasting, such as using a signaling system to alert workers of an impending blast and using blasting mats to prevent or reduce the number of rock particles thrown into the air;
2. Describe procedures for proper storage and transportation of explosive materials, including protecting explosives from wildfires;
3. Prohibit blasting during extreme fire danger periods; and,
4. Comply with the U.S. Bureau of Mines and the U.S. Department of the Interior Office of Surface Mining Reclamation and Enforcement guidelines for minimizing damage to structures from blasting.

MM 4.11-4 **Herbicide Control.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, and if herbicides are utilized, the project proponent shall submit evidence that the contractor or personnel applying herbicides must have all the appropriate State and local herbicide applicator licenses and will comply with all State and local regulations regarding herbicide use; including any terms and conditions of the Pesticide Use Permit issued by the BLM.

MM 4.11-5 **Emergency Response Liaison**. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the project site. The BLM, Kern County Fire Department, Kern County Sheriff's Office, and the California Highway Patrol shall be provided with the construction schedule and the on-site contact information for the Liaison prior to construction. The Liaison shall be immediately reachable at all times during project construction. The Liaison shall have radio contact with project construction vehicles at all times to coordinate traffic reduction measures. In addition, the Liaison shall coordinate with the BLM, Kern County Fire Department, the Kern County Sheriff's Office and the California Highway Patrol to establish emergency procedures for access to the project site during an emergency.

MM 4.11-6 **Spill Prevention**, **Control, and Countermeasures Plan**. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall prepare and submit a Spill Prevention, Control, and Countermeasures Plan to ~~the U.S. Environmental Protection Agency, the California Environmental~~

~~Protection Agency,~~ the BLM, the Kern County Planning and Community Development Department, and to the Kern County Environmental Health Services Department for review. The Plan will be for the storage and use of transformer oil, gasoline, or diesel fuel at the site in quantities of 660 gallons or greater. The purpose of the plan will be to mitigate the potential effects of a spill of transformer oil, gasoline, or diesel fuel. The Plan shall include design features of the project that will contain accidental releases of petroleum and transformer oil products from onsite fuel tanks and transformers.

MM 4.11-7 **Aviation and Hazardous Materials Storage**. Prior to issuance of building permits, the project proponent shall submit documentation of the following:

1. The project proponent shall submit documentation to the Kern County Planning and Community Development Department and the BLM demonstrating receipt of a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA) of Form 7460 1 (Notice of Proposed Construction or Alteration). Documentation shall also be furnished to the Kern County Planning and Community Development Department and the BLM demonstrating that a copy of the approved form(s) has been provided to the United States Department of Defense, Edwards Air Force Base, and the Mojave Air and Space Port. All project components shall have lighting and marking required by the Federal Aviation Administration so not to create a hazard to air navigation.
2. No wind turbine generators shall be constructed within the boundaries of the Kern County Airport Land Use Compatibility Plan.
3. The project proponent shall provide evidence that all fueling, hazardous materials storage areas, and operation and maintenance activities involving hazardous materials will be sited at least 100 feet away from blue-line drainages, as identified on U.S. Geological Survey topography maps and wetlands.

MM 4.11-8 **Hazardous Materials Management and Property Taxes.** The project proponent shall continuously comply with the following during construction and operation of the project:

1. In order to eliminate the risk of generating disease vectors at the site, the Project proponent shall ensure that trash is stored in closed containers and removed from the site at regular intervals. Open containers shall be inverted and construction ditches shall not be allowed to accumulate water. Construction and maintenance operations shall not generate standing water. Naturally occurring depressions, drainages, and pools at the site shall not be drained or filled without consulting with the appropriate resource agency (BLM, Kern County, U.S. Army Corps of Engineers (ACOE), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG)) and obtaining the appropriate permits. The environmental monitor will ensure that standing water and large quantities of trash do not accumulate on site. Project compliance shall be verified by the Kern County Building Inspection Department during any on-site inspections.
2. Should any additional abandoned or unrecorded wells be uncovered or damaged during excavation or grading, the project proponent shall immediately contact the Department of Oil, Gas, and Geothermal Resources. The project proponent shall comply with established Federal, State, or local procedures for the handling and disposal of any discovered hazardous wastes.
3. If, during grading or excavation work, the contractor observes visual or olfactory evidence of contamination or if soil contamination is otherwise suspected, work near the excavation site shall be terminated, the work area cordoned off, and appropriate

health and safety procedures implemented for the location by the contractor's Health & Safety Officer. Samples shall be collected by an Occupational Safety and Health Administration-trained individual with a minimum of 40-hours hazardous material site worker training. Laboratory data from suspected contaminated material shall be reviewed by the contractor's Health and Safety Officer. If the sample testing determines that contamination is not present, work may proceed at the site. However, if contamination is detected above regulatory limits, the BLM and the Kern County Public Health Division shall be notified. All actions related to encountering unanticipated hazardous materials at the site shall be documented and submitted to the BLM for federal lands and the Kern County Public Health Division for County lands.

4. Payment of property taxes has been determined to be sufficient to mitigate impacts to fire, sheriff and emergency services for the wind component of the project. Written verification of ownership of the project shall be submitted to the Kern County Planning and Community Development Department by April 30 of each calendar year. If the project is sold to a city, county, or utility company that pays assessed taxes that equal less than $5,000 per turbine per year, then they will pay those taxes plus an amount necessary to equal the equivalent of $5,000 per turbine. The amount shall be paid for all years of operation. That amount shall be adjusted annually for inflation using the U.S Cities Average - All Urban Consumers (CPI-U) Consumer Price Index provided by the U.S Bureau of Labor Statistics. The fee shall be paid to the Kern County Auditor/Controller by April 30 of each calendar year.

5. During construction activities, the project proponent shall reduce construction waste transported to landfills by recycling solid waste construction materials to the extent feasible, such as taking materials to recycling and reuse locations listed in the brochure on recycling construction and demolition materials available on the Kern County Waste Management Department Web site.

6. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall provide a fenced storage area for recyclable materials that is clearly identified for recycling. This area shall be maintained on the site during construction and operations. A site plan showing the recycling storage area shall be submitted to the Kern County Planning and Community Development Department and Kern County Waste Management Department.

4.11.12 Residual Impacts After Mitigation

Mitigation Measure 4.11-7 (Aviation and Hazardous Materials Storage) would substantially reduce potential impacts to aircraft operations by requiring compliance with conditions stipulated by the FAA. This measure would ensure that the AEWP would pose no hazards to air navigation and would not compromise the operational mission of the DOD Airspace Consultation Area. . Mitigation Measures 4.11-2 (Hazardous Materials Business Plan), 4.11-4 (Herbicide Control), 4.11-6 (Spill Prevention, Control, and Countermeasures Plan), and 4.11-8 (Hazardous Materials Management) would substantially reduce potential impacts associated with the use, storage, or handling of hazardous substances or the existence of other hazardous conditions at the AEWP site, by requiring the implementation of preventive measures and precautions. These measures also require that necessary licenses and permits be obtained, and that hazardous substances only be handled and used by properly trained and certified personnel. Mitigation Measure 4.11-8 (Hazardous Materials Management) would substantially reduce risk of generating disease vectors by implementing preventive measures, avoiding the establishment of conditions that might promote disease, and monitoring conditions at the AEWP site.

Because these mitigation measures would not disturb or disrupt the natural environment, including the emission of pollutants or release of hazardous substances, and would not threaten the health or safety of people, their implementation would not result in adverse impacts.

Although unlikely, following implementation of BMPs and mitigation measures provided in Section 4.11.11, it is possible that an accidental hazardous material release could occur and could cause a public health and safety risk to the human environment. No other residual impacts to public health and safety are expected to occur as a result of construction, operation and maintenance, and/or decommissioning of the AEWP or an alternative.

4.12 Recreation

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on recreational resources. The applicable environmental and regulatory settings are discussed in Chapter 3.12. Mitigation measures that would reduce impacts, where applicable, are also discussed.

4.12.1 Methodology for Analysis

Existing and planned recreational resources were identified through a variety of sources. Recently published maps including United States Geological Survey (USGS) topographic maps and available aerial photos were used to verify the location of recreational areas and resources. Federal, State, and local (County) plans, such as land management plans and general plans, were consulted to describe the region with regards to recreation.

Impacts associated with other existing land use activities are discussed in separate sections of Chapters 3 and 4, and are as follows: Lands and Realty (Section 3.6 and 4.6); Livestock Grazing (Section 3.7 and 4.7); Multiple-Use Classes (Section 3.9 and 4.9); and Wild Horses and Burros (Section 3.20).

4.12.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact to recreation resources if it would:

RC-1 Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated; or

RC-2 Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

For the AEWP, the RC-2 criterion was determined to result in no impacts under all alternatives since the development of recreational facilities is not included in the AEWP. As discussed in Section 2 (Project and Alternatives), construction of the AEWP would require a peak of 262 workers. It is anticipated that the majority of construction personnel would live locally and commute to the work site, or stay in hotels and rental properties in the local communities adjacent to the AEWP area or the nearby City of Bakersfield for the duration of construction. Operation and maintenance of the AEWP would require a workforce of 15 part- and full-time employees. It is anticipated that few, if any, workers would relocate to the area permanently. Consequently, construction, operation, and maintenance of the AEWP would not substantially increase the population and the AEWP would not require the construction of recreational facilities or require expansion of existing recreational facilities. Appendix G of the CEQA Guidelines also includes a criterion under Public Services for potential adverse physical impacts associated with the provision of new or physically altered government facilities, the construction of which could cause environmental impacts, including parks. As stated above, the AEWP would not result in the construction of new parks and would not result in the physical alteration of existing parks. There would be no impact to recreational facilities and parks; therefore, the RC-2 and the Public Services criteria are not discussed further in this section.

4.12.3 Alternative A: Project

4.12.3.1 Direct and Indirect Impacts

Construction

The AEWP site is currently used for recreation activities, which primarily includes off-highway vehicle (OHV) use. During the construction period, temporary fencing would be installed around staging areas, storage yards, and excavation areas to limit public access, which would result in a temporary disruption to current recreational uses. Some private access roads may have gates or signs installed to limit public access for safety reasons. In addition, permanent security fencing would be installed in accordance with Kern County zoning requirements, which allow either fencing the perimeter of the entire AEWP property or fencing each wind turbine generator (WTG) cluster or row independently. At this time, it has not been determined which of these options would be used. The installation of perimeter fencing would prohibit the public's access to the privately-owned AEWP site, and assuming the fencing would be installed upon the commencement of construction, this would permanently disrupt onsite recreation activities. However, fencing around clusters or rows of wind WTGs would temporarily disrupt the public access to the AEWP site during the construction, but onsite recreation activities could resume upon the completion of construction. As such, the level of disruption to recreation activities will depend on which option is chosen.

The majority of the AEWP site is within BLM-designated land that is subject to the California Desert Conservation Area (CDCA) Plan. The West Mojave Plan (WMP) is an amendment to the CDCA Plan, and the AEWP site includes two off-highway vehicle (OHV) routes of travel within the WMP's Middle Knob Motorized Access Zone (MAZ) (BLM, 2005c and BLM, 2004). A map of the routes is included in Appendix A, Figure 3.12-2. Off-highway vehicle access is not just a recreational activity, in many instances it is the way that many activities must be accessed. The Middle Knob Area of Critical Environmental Concern (ACEC) road is an access road, and temporary relocation should be established if it needs to be closed for any significant time. It also provides access for emergency and patrol services for BLM, Kern County Fire, Fish and Game, Kern County Law Enforcement, and Search and Rescue. As discussed above, impacts to onsite recreation resources depend on which fencing option is chosen. A perimeter fence would prohibit use of the Middle Knob MAZ routes, while fencing around clusters of WTGs would temporarily disrupt the availability of these routes. The majority of the Middle Knob MAZ routes that would be affected by the AEWP are located within the northern portion of Section 28, which is also a part of the Hansen Common Allotment. As discussed in Section 4.7 (Livestock Grazing), as part of the right-of-way (ROW) grant, the BLM may require the fencing of individual turbines in the portions of Section 28 that are within the Hansen Common Allotment, and the turbines within the Warren Allotment (all of Section 34). In addition, as part of the ROW grant, the BLM may require that the Project Proponent allow public access to the onsite OHV routes. These stipulations set forth by the ROW grant would allow the current level of public access to recreational areas to be maintained. Safety associated with public access is addressed in Sections 4.11 (Public Health and Safety) and 4.15 (Transportation and Public Access) and the implementation of Mitigation Measures 4.15-3 (Obtain Applicable Permits) and 4.15-4 (Coordination With County Roads Department) would ensure that the AEWP be in compliance with applicable Kern County and Caltrans regulations for transportation and traffic safety.

In addition to the direct impacts associated with recreational resources, the temporary preclusion of the AEWP site could result in indirect impacts to surrounding recreational resources due to increased usage of recreational resources surrounding the AEWP site (see Figure 3.12-2 in Appendix A and Table 3.12-1 for a map and a list of the surrounding recreation areas, respectively). In addition to local recreational users and visitors, the AEWP could result in a temporary increase in population due to the influx of construction workers. The AEWP would require a peak construction workforce of up to 262 workers. Construction workers are expected to travel to the site from various locations proximate to the AEWP site, with some workers expected to seek proximate temporary lodging accommodations to the site during the workweek. The number of construction workers expected to seek temporary lodging proximate to the surrounding area is not expected to be substantial; however, these workers may use the neighborhood and regional recreation areas in the vicinity of the AEWP site.

Although the AEWP would not result in deterioration of recreational facilities as a result of increased use, construction of the AEWP would alter the existing character of the site and, therefore, may affect onsite and surrounding recreational uses of the site as a result of the altered viewshed, increased noise, altered airplane and glider routes, and possible safety concerns. These issues are addressed in Sections 4.18 (Visual Resources), 4.9 (Noise), 4.16 (Transportation and Public Access), and 4.11 (Public Health and Safety), respectively.

As indicated in Table 3.12-1 (Regional Recreation Areas), the developed recreation resources that are located within the AEWP site and in the surrounding area predominantly include camping and OHV use. Since there is a concentration of OHV use in the vicinity of the AEWP site, it is possible that in reaction to existing OHV routes being restricted during AEWP construction, some OHV recreationists may choose to utilize illegal OHV routes or create new, unauthorized OHV routes, thereby contributing to unmanaged or unauthorized recreational uses. Impacts associated with illegal OHV use include disturbances to surrounding desert lands that may be preserved or under management plans due to resources such as biological, cultural, or geologic resources. However, as discussed above, as part of the ROW grant the BLM may require measures to maintain public access to the onsite routes, and implementation of Mitigation Measure 4.12-1 (Coordinate Construction Activities to Minimize Impacts to Recreation Area) would minimize impacts to recreation areas during the construction period. As a result, these measures would also avoid the use of unauthorized lands for recreation activities.

Operation and Maintenance

As mentioned above under the "Construction" discussion above, portions of the AEWP site are currently used for recreational purposes and there are recreational resources surrounding the AEWP site. Permanent security fencing would be installed in accordance with Kern County zoning requirements, which allow either fencing the exterior boundary of the entire AEWP property or fencing each WTG cluster or row independently. At this time, it has not been determined which of these options would be used. The installation of perimeter fencing would prohibit the public's access to the AEWP site and permanently disrupt onsite recreation activities; while fencing around clusters or rows of WTGs would temporarily disrupt the public access to the AEWP site during the construction, but onsite recreation activities could resume upon the completion of construction.

Operation of the AEWP would require a permanent staff of up to 15 individuals. It is expected that most of these individuals would already reside in the area and operation of the AEWP would

not result in a substantial influx of people to the area. Therefore, given that there are several parks and recreational facilities in the AEWP vicinity and the limited addition of AEWP-related operations and maintenance employees to the area, there would not be a detectable increase in use at any one recreational facility or area resulting in the physical deterioration of existing recreational resources. However, as discussed under "Construction," the AEWP would alter the existing character of the site and, therefore, may affect on-site and surrounding recreational uses of the site as a result of the altered viewshed, increased noise, altered airplane and glider routes, and possible safety concerns. These issues are addressed in Sections 4.18 (Visual Resources), 4.9 (Noise), 4.16 (Transportation and Public Access), and 4.11 (Public Health and Safety), respectively.

Decommissioning

As mentioned above under "Construction," the AEWP site is currently used for recreational purposes and there are several recreational resources surrounding the site. Decommissioning activities would cause temporary, indirect disturbance to users of the recreation areas similar to those described under "Construction" above. However, after the AEWP has been decommissioned, users would experience a beneficial impact, as the site would return to its undeveloped state.

4.12.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Construction

- **RC-1 (Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated).** The temporary disruption to the AEWP site as a result of construction could increase the use of neighborhood and regional recreation facilities such that the physical deterioration of the facilities may occur. However, the physical deterioration of recreational resources would be less than significant given the implementation of Mitigation Measure 4.12-1 (Coordinate Construction Activities to Minimize Impacts to Recreation Area), the limited addition of people to the area, the short-term duration of construction, and the numerous recreation opportunities in the AEWP vicinity. Therefore, this impact would be less than significant with mitigation.

Operation and Maintenance

- **RC-1 (Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated).** During the operation period, the AEWP site would be available for recreational uses. Therefore, the potential increase in the use of neighborhood and regional recreational facilities as a result of construction on the AEWP site would no longer be an impact. In addition, operation of the AEWP would require a permanent staff of up to 15 individuals. This minimal increase in potential long-term recreation users would not substantially contribute to the physical deterioration of neighborhood and regional recreational opportunities. Therefore, this impact would be less than significant.

Decommissioning

- **RC-1 (Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated).** The temporary disruption to the AEWP site as a result of decommissioning activities could increase the use of neighborhood and regional recreation facilities such that the physical deterioration of the facilities may occur. However, the physical deterioration of recreational resources would be less than significant given the implementation of Mitigation Measure 4.12-1 (Coordinate Construction Activities to Minimize Impacts to Recreation Area), the limited addition of people to the area, the short-term duration of decommissioning activities, and the numerous recreation opportunities in the AEWP vicinity. Therefore, this impact would be less than significant with mitigation.

4.12.4 Alternative B: Revised Site Layout

4.12.4.1 Direct and Indirect Impacts

In comparison to Alternative A, Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting of access roads. All other features associated with Alternative B would remain unchanged compared to that discussed above for Alternative A.

Construction

During construction of this alternative, potential impacts to recreational resources would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts on recreational resources would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts on recreational resources would be the same as described under "Decommissioning" for Alternative A.

4.12.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The CEQA significance determinations of recreation impacts for Alternative B would be identical to Alternative A.

4.12.5 Alternative C: Reduced Project North

4.12.5.1 Direct and Indirect Impacts

Under Alternative C, all WTGs and ancillary facilities would remain identical to that of the AEWP. However, Alternative C would eliminate the central parcel within the AEWP boundary, which is located north of SR 58. The purpose of this alternative is to marginally reduce potential biological resources impacts as a result of the reduced level of construction and permanent habitat loss, the reduced number of WTGs on the landscape, and the avoidance of some Joshua tree woodland habitat adjacent to the Pacific Crest Trail.

Construction

During construction of this alternative, potential impacts to recreational resources would be the same as described under "Construction" for Alternative A. However, with the reduction of the size of the AEWP site, a smaller number of WTGs would be constructed; therefore, fewer recreational lands would be affected. In particular, Alternative C site would not include the Middle Knob MAZ routes. Nonetheless, temporary effects would still be experienced, but to a lesser degree.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts on recreational resources would be the same as described under "Operation and Maintenance" for Alternative A, but to a lesser degree given the smaller number of WTGs.

Decommissioning

During decommissioning of this alternative, potential impacts on recreational resources would be the same as described under "Decommissioning" for Alternative A, but to a lesser degree given the smaller number of WTGs.

4.12.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

The CEQA significance determinations of recreation impacts for Alternative C would be identical to Alternative A.

4.12.6 Alternative D: Reduced Project Southwest

4.12.6.1 Direct and Indirect Impacts

Alternative D would eliminate the southwestern most parcel within the AEWP boundary to reduce the potential to impact existing and allowed livestock grazing on this parcel of BLM land. Figure 2-12 displays the Alternative D site layout and existing BLM and Kern County land use designations. Currently, livestock grazing occurs within this southwestern parcel. The removal of this parcel and reduction in project size would avoid conflicts with grazing livestock during both construction and operational activities, and would eliminate 19 WTGs through loss of land or requirements imposed by setbacks.

Construction

During construction of this alternative, potential impacts to recreational resources would be the same as described under "Construction" for Alternative A. However, with the reduction of the size of the AEWP site, a smaller number of WTGs would be constructed; therefore, less recreation lands would be affected. Nonetheless, temporary effects would still be experienced since the site would not be available for recreation activities during the construction period.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts on recreational resources would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts on recreational resources would be the same as described under "Decommissioning" for Alternative A.

4.12.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

The CEQA significance determinations of recreation impacts for Alternative D would be identical to Alternative A.

4.12.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

4.12.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would not amend the CDCA Plan. As a result, no wind energy project would be constructed, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan.

Because there would be no amendment to the CDCA Plan and no wind project approved for the site under this alternative, no new structures or facilities would be constructed or operated on the site and no new ground disturbance would occur. As a result, none of the impacts on recreational resources from construction or operation of the AEWP would occur. However, if the AEWP is not approved, renewable projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/federal mandates. Construction and operation impacts to recreation would occur at these other sites, similar to those described for the AEWP.

4.12.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

There would be no impacts to recreational resources under Alternative E.

4.12.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.12.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would amend the CDCA Plan to make the site unsuitable for future wind energy development. As a result, no wind energy project would be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan.

Because the CDCA Plan would be amended to make the area unsuitable for future wind energy development, it is expected that the site would remain in its existing condition unless another use is designated in this amendment. As a result, access to the site would not change and recreation activities would continue without any disruptions from construction of wind energy facilities. As such, this No Project Alternative would have no adverse impact on recreational resources within

and adjacent to the site in the long term. However, renewable projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/federal mandates. Construction and operation impacts to recreation would occur at these other sites, similar to those described for the AEWP.

4.12.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

There would be no impacts to recreational resources under Alternative F.

4.12.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.12.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP, but would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site. If this were to occur, it is likely that construction and operation impacts to recreational resources would be similar to the impacts described for Alternative A.

4.12.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

The CEQA significance determinations of recreation impacts for Alternative G would be identical to Alternative A.

4.12.10 Cumulative Impacts

4.12.10.1 Geographic Extent/Context

Construction of the AEWP would have temporary effects on the existing recreation activities on the AEWP site and several surrounding recreation areas listed in Section 3.12 (Table 3.12-1). The geographic extent of analysis are the boundaries encompassing these areas. Proposed projects in the vicinity of the AEWP that would have potentially adverse impacts on recreational resources include projects that are within a 16-mile radius of the AEWP site. In particular, the Middle Knob MAZ, Middle Knob ACEC, Horse Canyon ACEC, and Pacific Crest Trail are in the immediate vicinity of the AEWP site and consist of thousands of acres of land available for the same recreation activities as the AEWP site, including camping, hunting, and hiking (see Figure 3.12-1 in Appendix A). This geographic extent was selected based on the distances of the local and regional recreation areas (listed in Table 3.12-1) that allow for the same or similar recreation activities as the AEWP site and are at a distance (16 miles) that is a reasonable alternative for potential recreationists.

4.12.10.2 Existing Cumulative Conditions

Past and present projects occurring in the vicinity of the AEWP site include passive recreational activities, OHV use, grazing land, and utility easements. Potential cumulative recreation impacts surrounding the AEWP site may result from the new structures and activities that could restrict access to recreational resources and/or physically degrade existing recreational facilities and resources.

4.12.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects (including wind and solar energy generating systems and transmission lines), various BLM-authorized actions/activities, and proposed or approved projects within the County's jurisdiction. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in 4.1-1, their effects were considered in the cumulative impacts analyses in this Proposed PA, Final EIS/EIR.

Proposed projects in the vicinity of the AEWP that would have potentially adverse impacts on recreational resources include projects that are within a 16-mile radius of the AEWP site. Of the cumulative projects listed in Table 4.1-1, the cumulative projects that would impact designated recreation lands are listed in Table 4.12-1, along with the acreage of each cumulative project site and the surrounding recreational resources that may be affected by cumulative impacts. For the cumulative projects that have undergone an environmental review, specific acreage and on-site recreational resources are included; otherwise, the determination for potentially affected resources is based on the designated recreation areas immediately surrounding the AEWP site.

4.12.10.4 Construction

Construction activities associated with the AEWP are expected to result in short-term adverse impacts to recreational resources in the AEWP area. It is expected that some of the cumulative projects described above which are not yet built may be under construction at the same time as the AEWP. As a result, there may be substantial short-term impacts during construction of those cumulative projects related to recreational resources, and the AEWP could contribute to these possible short-term cumulative impacts.

Construction of the AEWP is anticipated to commence in the spring of 2012 and require 9 to 12 months to complete. Of the projects listed in Table 4.12-1, construction of the following projects may occur at the same times as the AEWP:

- Tehachapi Renewable Transmission Project
- Pacific Wind Energy Project
- Pacific Wind Infill Project
- Windstar Energy Project
- Alta Infill II Wind Project
- Tylerhorse Wind Project
- Catalina Renewable Energy Project
- Lower West Wind Energy Project
- Morgan Hills Wind Energy Project
- Rising Tree Wind Energy Project
- North Sky River & Jawbone Wind Energy Projects
- Clearvista Wind Project
- Aero Energy Wind Project
- Distributed Solar Projects (10 individual solar projects)
- The Aeromen, LLC (four solar projects)
- High Desert Solar Project

Development of highway access to the region has provided direct vehicular access to open desert scenery for residents throughout southern California. This increased access improved the recreational experience for some users by making the area more accessible, but has detracted from the recreational experience for other users who preferred remote camping, hiking, and hunting away from populated areas.

Presently, as discussed above, numerous development projects, including the AEWP, would temporarily remove large acreages of land from potential recreational use during the construction period. The combined effect of construction of past, present, and reasonably foreseeable projects in this area of County would adversely affect recreation activities and potentially result in indirect impacts to the surrounding recreational resources. During the construction period, temporary fencing would be installed around staging areas, storage years, and excavations to limit public access, which would result in a temporary disruption to current recreational uses and access roads would have gates or signs installed to limit public access for safety reasons. In addition, permanent security fencing would be installed in accordance with Kern County zoning requirements, which allow either fencing the exterior boundary of the entire AEWP property or fencing each WTG cluster or row independently. The effects of each option are as follows: the installation of perimeter fencing would prohibit the public's access to the AEWP site and permanently disrupt onsite recreation activities; and fencing around clusters or rows of WTGs would temporarily disrupt the public access to the AEWP site during the construction, but onsite recreation activities could resume upon the completion of construction. However, as part of the ROW grant, the BLM may require measures to maintain public access to the onsite routes, and implementation of Mitigation Measure 4.12-1 (Coordinate Construction Activities to Minimize Impacts to Recreation Areas) would minimize impacts to recreation areas during the construction period. As a result of these measures, the AEWP would not contribute to cumulative impacts.

4.12.10.5 Operation and Maintenance

Increase in use by AEWP personnel at any one recreation area during the operation period is not anticipated to be significant or result in a detectable physical deterioration of recreational resources. However, as discussed above, it is unknown at this time if the project site will be accessible to the public during the operation period.

It is expected that most of the cumulative projects described above may be operational at the same time as the AEWP. In particular, development of the solar energy facilities (listed in Table 4.13-1) within 16 miles of the AEWP would result in the permanent conversion of approximately 3,500 acres of land within or adjacent to recreational resources. As a result of these projects, all other land uses would be precluded, including recreation opportunities; and these developments would adversely affect the viewscape which would result in some users seeking out other areas of the desert for their activities (see the cumulative analysis in the Visual Resources section). As a result, there may be substantial long-term recreation impacts during operation of these solar projects. Additionally, viewshed impacts to recreational users is analyzed in Section 4.19, Visual Resources.

4.12.10.6 Decommissioning

Decommissioning activities would cause temporary, indirect disturbances to users of the recreation areas similar to those described under "Construction" above. However, after the AEWP has been decommissioned, the site would return to an undeveloped condition. There is

potential for the decommissioning of other projects concurrently with the decommissioning of the AEWP, which may result in cumulative impacts to recreation resources during decommissioning of the AEWP. The sites of other projects that are being decommissioned during the same period would be returned to an undeveloped condition, similar to Alternative A. Impacts would be temporary due to nature of decommissioning activities.

4.12.10.7 CEQA Significance and Impact Determinations, Cumulative

Construction

- **RC-1 (Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated).** During construction of the AEWP or the alternatives, the physical deterioration of recreational resources would be less than significant given the implementation of Mitigation Measure 4.12-1 (Coordinate Construction Activities to Minimize Impacts to Recreation Areas), the limited addition of people to the area, the short-term duration of construction, and the numerous recreation opportunities in the vicinity of the AEWP. Therefore, the AEWP's contribution to recreation impacts during construction would not be cumulatively considerable and is considered less than significant with mitigation.

Operation and Maintenance

- **RC-1 (Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated).** During the operation period, the AEWP would require a permanent staff of up to 15 individuals. This minimal increase in potential long-term recreation users would not substantially contribute to the physical deterioration of neighborhood and regional recreational opportunities. Therefore, the AEWP's contribution to recreation impacts during operation and maintenance would not be cumulatively considerable and is considered less than significant.

Decommissioning

- **RC-1 (Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated).** Disruption to the AEWP site as a result of decommissioning activities would be temporary, and the physical deterioration of recreational resources would be less than significant given the limited addition of people to the area, the short-term duration of decommissioning activities, and the numerous recreation opportunities in the AEWP vicinity. Therefore, the AEWP's contribution to recreation impacts during decommissioning would not be cumulatively considerable and is considered less than significant.

4.12.11 Mitigation Measures

MM 4.12-1 Coordinate Construction Activities to Minimize Impacts to Recreation Areas. No less than 60 days prior to construction, the Project Proponent shall coordinate construction activities and the project construction schedule with the authorized BLM officer for the recreation areas impacted. The project proponent shall schedule construction activities to avoid heavy recreational use periods in coordination with and at the discretion of the authorized officer. The project proponent shall locate construction equipment to avoid temporary preclusion of

recreation areas in accordance with the recommendation of the authorized officer. The project proponent shall document its coordination efforts with the authorized officer and provide this documentation to the Lead Agencies and affected jurisdictions at least 30 days prior to construction.

4.12.12 Residual Impacts After Mitigation

There would be no adverse unavoidable impact to recreational resources as a result of construction, operation and maintenance, or decommissioning of the AEWP.

4.13 Social and Economic Issues

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/ Environmental Impact Report (Final EIS/EIR) describes effects on social and economic issues that could result from implementation of the Alta East Wind Project (AEWP) and alternatives. The applicable environmental and regulatory settings are discussed in Chapter 3.13.

4.13.1 Methodology for Analysis

In the analysis, population, housing, employment, income, labor force, and tax revenue data from federal, State and local agencies were compared to labor force projections, construction cost estimates, and design specifications for the AEWP. Social and economic effects may include those that are growth inducing or related to induced changes in the pattern of land use, population density, or growth rate. It should be noted that under the California Environmental Quality Act (CEQA) social and economic effects in and of themselves are not considered significant effects on the environment.

It is assumed for purposes of this analysis that construction and operation workers for the AEWP would be located within one hour driving time of the AEWP site. Workers would commute to the site from areas within Kern County and areas of the Antelope Valley portion of Los Angeles County and small communities in northwest San Bernardino County. Therefore, the Bakersfield Metropolitan Statistical Area (MSA) and North Antelope Valley Census county division (CCD) provide the best statistical area encompassing the communities located within a one-hour vehicle commute of the AEWP site. By looking at other adjacent regional statistical areas (Los Angeles MSA for example), data would not accurately reflect the workforce and socioeconomic conditions of that population assumed within a one-hour vehicle commute. Due to the size of these adjacent regional statistical areas, the demographic data included within would include a large percentage of population far beyond the one-hour commute range. Therefore, the Bakersfield MSA and North Antelope Valley CCD are utilized in this analysis as representing a large percentage of the population within a one-hour commute distance.

4.13.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on population and housing (used as applicable to Social and Economic Effects) if it would:

SOC-1 Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);

SOC-2 Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or

SOC-3 Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The criteria above were used for determining the significance of impacts under CEQA. As noted in Chapter 2 of this document, the project vicinity is sparsely developed with rural land uses consisting predominantly of SR 58, open space, scattered residences, off-highway vehicle trails, and livestock grazing. The nearest concentrated populated area is northeast of the project area, in

the outskirts of Mojave, an unincorporated community. There is also a grouping rural residences located north and east of the project boundary, directly north of SR 58 in Section 27, T.32.S., R.35.E. This area was subdivided in 1957 and has been sparsely developed with rural residences that take access from Cache Creek Boulevard, located northeast of the project boundary. This residential grouping is separated from the project boundary by SR 58, railroad tracks and open-space on the south and by Wildflower Canyon Road on the west. The AEWP would not require the removal or displacement of these structures or their inhabitants; therefore, no housing would be displaced, and the project would not require construction of replacement housing elsewhere. Additionally, turbines constructed as a part of the project would be required to adhere to setbacks requirements for structures that are adjacent to the eastern-most edge of the project boundary. Therefore, the project would not require the removal or displacement of these structures or their inhabitants. Since no inhabitants would be displaced, the project would not require construction of replacement housing elsewhere.

The AEWP would result in no impact related to thresholds SOC-2 and SOC-3; and are therefore not addressed further in the impact analysis presented in this section.

4.13.3 Alternative A: Project

4.13.3.1 Direct and Indirect Impacts

This section presents the direct and indirect effects on population, income, employment, and housing as a direct result of Alternative A and the results of the expenditures, income, employment, and tax revenues generated by Alternative A. The discussion of socioeconomic impacts from Alternative A is separated into three categories: construction, operations and maintenance, and decommissioning.

Construction

As shown in Table 2-1, construction of Alternative A would require a workforce of approximately 262 workers.

Population

Turbines constructed as a part of Alternative A would be required to adhere to setbacks requirements for structures that are adjacent to the eastern-most edge of the project boundary. Therefore, the project would not require the removal or displacement of these structures or their inhabitants. Since no inhabitants would be displaced, the project would not require construction of replacement housing elsewhere. As further discussed below under "employment", construction of Alternative A is not expected to result in the permanent direct addition of population.

Income

No business uses occur in the immediate vicinity of the site. Additionally, as short-term construction impacts would not be substantial or have been mitigated such that they would not be substantial, any associated loss of local business revenue impacts would be minimal.

Employment of construction personnel would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services. As discussed below under "employment", personnel for construction would be drawn from within a one-hour

commute area (Bakersfield MSA and North Antelope Valley CCD), creating new temporary employment. A limited number of construction personnel would require temporary housing, likely in local hotels, and would purchase food, beverages, and other commodities, which would benefit the local economy. Economic and employment modeling was completed in the study *Economic Effects of the Alta Wind Energy Center*, prepared by the Brattle Group in October 2011, as included as Appendix M. Utilizing the IMPLAN economic model, it is estimated that construction of Alternative A would generate $48,494,041 of spending within the County and $81,179,076 in total spending within California (extrapolated from Brattle Group, 2011). Additionally, it is estimated that construction of Alternative A would contribute approximately $37,445,100 in annual sales tax during the construction period (extrapolated from Brattle Group, 2011).

Employment

Construction employment for Alternative A would include skilled or semi-skilled workers to construct project infrastructure and facilities. As indicated in Table 3.13-3 and 3.13-4, the Bakersfield MSA and North Antelope Valley CCD contain a large existing construction workforce (in excess of 22,000 construction workers combined) in proportion to the required construction labor force requirements (262 workers) for Alternative A. It is assumed that the required construction personnel would live within a one-hour commute range (staying temporarily in hotels or other short-term rental accommodations during the work week within the Alternative A area for the duration of their employment).

The maximum required construction workforce of 262 personnel required for the Alternative A would comprise a marginal percentage of the total construction workforce of the Bakersfield MSA and North Antelope Valley CCD (one-hour commute area). Additionally, as indicated in Table 3.13-3 and 3.13-4, both the Bakersfield MSA and North Antelope Valley CCD have a number of unemployed workers. Due to the large available labor pool available within a one-hour commute area, few, if any, construction workers are expected to relocate permanently to the Alternative A area for a temporary construction job. Mitigation Measure 4.13-1 will encourage the project proponent to require that all contractors of the project to hire at least 25 percent of their workers from the local Kern County communities.

Housing

The nearest concentrated populated area is northeast of the Alternative A area, in the outskirts of Mojave, an unincorporated community. There is also a grouping rural residences located north and east of the project boundary, directly north of SR 58 in Section 27, T.32.S., R.35.E. This area was subdivided in 1957 and has been sparsely developed with rural residences that take access from Cache Creek Boulevard, located northeast of the project boundary. This residential grouping is separated from the project boundary by SR 58, railroad tracks and open-space on the south and by Wildflower Canyon Road on the west. Alternative A would not require the removal or displacement of these structures or their inhabitants; therefore, no housing would be displaced, and Alternative A would not require construction of replacement housing elsewhere.

It is assumed that the majority of construction personnel would live within a one-hour commute range (staying temporarily in hotels or other short-term rental accommodations during the work week within the Alternative A area for the duration of their employment). Construction of

Alternative A is not expected to result in the direct addition of population within the one-hour commute area that could adversely affect existing housing demands.

Operation and Maintenance

Population

Operation and maintenance of Alternative A would require up to 15 full-time and part-time skilled or semi-skilled workers to operate and maintain Alternative A. As further discussed below under "employment", operation of Alternative A is not expected to result in the permanent direct addition of population that could adversely affect existing or predicted population levels.

Income

Employment of operation and maintenance personnel would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services. This new employment would provide economic benefit to the local economy in terms of increased revenues. Employment of operational personnel would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services. Additionally, operational-related activities such as materials purchases for O&M activities and land lease and equity payments would benefit the local economy. Utilizing the IMPLAN economic model, it is estimated that operation of Alternative A would generate $11,476,203 of spending within the County and $13,891,800 in total spending within California (extrapolated from Brattle Group, 2011). Additionally, it is estimated that maintenance activities of Alternative A would contribute approximately $474,480 in annual sales tax (extrapolated from Brattle Group, 2011).

No business uses occur in the immediate vicinity of the Alternative A site, and Alternative A would not require the removal or relocation of any businesses. Alternative A is not located on lands that are under a Williamson Act contract or in an area designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, as designated by the California Department of Conservation (CH2MHILL, 2011f). According to the Department of Conservation Kern County Important Farmland Map the Project site has two land use designations: Grazing Land and Nonagriculture and Natural Vegetation (CH2MHILL, 2011f). Grazing Land is land on which the existing vegetation is suited for grazing of livestock. Nonagriculture and Natural Vegetation includes heavily wooded, rocky or barren areas, riparian and wetland areas, grassland areas which do not qualify for grazing, small water bodies, and constructed wetlands. Refer to Section 4.7 (Livestock Grazing) for a discussion of impacts to land designated as Grazing Land and Nonagricultural and Natural Vegetation by the California Department of Conservation.

Changes in Property Values

Alternative A WTGs would be located within two miles of to residential developments both east of the northern portion of the site (north of State Route 58) and southeast of the southeastern site boundary. Claims of diminished property value have been made by the general public for other renewable energy projects throughout California and are based on reported concerns about hazards to human health and safety, and increased noise, traffic, and visual impacts associated with living in proximity to wind energy facilities.

A 2009 Ernest Orlando Lawrence Berkeley National Laboratory study, *The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis*, by Hoen et al., collected data on approximately 7,500 sales of single-family homes situated within 10 miles of 24 existing wind facilities in 9 different U.S. states (Hoen et al, 2009). Each of the homes in the analysis was visited by the researchers to determine the degree to which the wind facility was visible at the time of the home sale and to collect other pertinent data. The study authors applied a variety of models, conducted a sales analysis, and evaluated the possible impacts on sales volumes. While the analysis cannot completely dismiss the possibility that individual homes have been or could be negatively affected by proximity to wind facilities, the analysis concluded that impacts were either too small or too infrequent to result in any widespread and consistent statistically observable effect. Based on the 2009 Hoen et al. report, no evidence is found that home prices in the vicinity of wind facilities are consistently, measurably, and substantially affected by the view of the wind facilities or the distance of the home to the facilities.

Similarly, numerous studies of other land uses, such as energy generation and transmission line projects, conclude that the potential for environmental concerns associated with projects to have an effect on property value is usually smaller than anticipated and essentially impossible to quantify due to the individuality of properties and their respective neighborhoods, as well as differences in the personal preferences of individual buyers and the weight of other factors that contribute to a person's decision to purchase a property. Studies indicate that other property-specific factors such as neighborhood features, square footage, size of lot, and irrigation potential are substantially more likely to be major determinants of the sales price of property (McCann, 1999).

As demonstrated by the studies discussed above, factors that have the potential to affect property value are numerous and varied; as a result, it is not possible to identify exactly how Alternative A would affect private property values. It is possible to say that property-specific factors such as neighborhood features, square footage, size of lot, and water availability are more likely to be major determinants in property values than the presence of a wind generating facility. It is not unreasonable to assume that some aspect of project construction and/or operation and maintenance could potentially affect private property values. However, as discussed above, the effects of industrial facilities on property value are generally smaller in comparison to other relevant factors and generally diminish within five years to be negligible.

Employment

Operational employment for Alternative A would include skilled or semi-skilled workers to operate project infrastructure and facilities. As indicated in Table 3.13-3 and 3.13-4, the Bakersfield MSA and North Antelope Valley CCD contain a large existing utilities based workforce (in excess of 12,000 workers combined) in proportion to the required operational labor force requirements (15 workers) for Alternative A. The maximum required operations workforce of 15 personnel would comprise a minimal percentage of the estimated one-hour commute area labor force (Bakersfield MSA and North Antelope Valley CCD) utilities workforce. Additionally, as indicated in Table 3.13-3 and 3.13-4, both the Bakersfield MSA and North Antelope Valley CCD have a number of unemployed workers. Due to the availability of workers within the one-hour commute area, few, if any, operations workers are expected to relocate to the area permanently. Mitigation Measure 4.13-1 will encourage the project

proponent to require that all contractors of the project to hire at least 25 percent of their workers from the local Kern County communities.

Housing

Operation and maintenance of Alternative A would require up to 15 full-time and part-time skilled or semi-skilled workers to operate and maintain the Project. In the event any of the required 15 permanent workers do relocate from outside the one-hour area, it is assumed there are ample vacant housing units available to accommodate this number of operational personnel.

Decommissioning

According to Section 2.1.3.5, Decommissioning and Repowering, Alternative A is expected to have a lifespan of 30 years. At any point during this time, temporary or permanent closure of the facility could occur. Temporary closure would be a result of necessary maintenance, hazardous weather conditions, or damage due to a natural disaster. Permanent closure would be a result of damage that is beyond repair, adverse economic conditions, or other significant reasons.

The Project Proponent will be required to submit a decommissioning plan to the BLM prior to the Record of Decision that clearly establishes the action to be taken during decommissioning. A decommissioning plan will be implemented to ensure compliance with all applicable plans, regulations, and standards, and appropriate shutdown procedures. A decommissioning plan will be implemented to ensure compliance with applicable plans, regulations, and standards, removal of equipment and shutdown procedures, and site restoration. As described in Section 2.6.11, it is assumed decommissioning of the facility would be similar to that described for construction of Alternative A.

Additionally, any decommissioning activities taking place within the privately-owned portions of the project site would be subject to the decommissioning provisions of the WE (Wind Energy Combining) chapter of the Kern County Zoning Ordinance, as found in Section 19.64.150.

Population

Personnel for decommissioning are assumed to come from local populations within one-hour driving time of the site, with personnel assumed to commute or seek temporary accommodations, similar to that described above for Alternative A construction.

Income

Short-term employment of decommissioning personnel would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services similar to that described above for Alternative A construction. Upon permanent closure of the Alternative A, the beneficial socioeconomic operational impacts such as worker payroll, project expenditures, and local economic stimulus would no longer occur.

Employment

Personnel for decommissioning are assumed to come from local populations similar to that described above for Alternative A construction, creating new temporary employment.

Housing

A limited number of decommissioning personnel would require temporary housing similar to that described above for Alternative A construction, likely in local hotels, and are not expected to seek permanent housing within the one-hour area.

4.13.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of Alternative A (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.13.2. Only those significance criteria, which were determined in Section 4.13.2 to be relevant to the Project, are addressed below.

Construction

- **SOC-1 (*Induce substantial population growth in an area, either directly [for example, by proposing new homes and businesses] or indirectly [for example, through extension of roads or other infrastructure]*).** The maximum required construction workforce of 262 personnel required for the Alternative A would comprise a marginal percentage of the total available construction workforce and few, if any, construction workers are expected to relocate permanently to the Alternative A area for a temporary construction job. Additionally, Mitigation Measure 4.13-1 (Workers Plan) will encourage the project proponent to require that all contractors of the project to hire at least 25 percent of their workers from the local Kern County communities. Therefore, construction of Alternative A would have a less than significant impact to CEQA significance criterion SOC-1.

Operation and Maintenance

- **SOC-1 (*Induce substantial population growth in an area, either directly [for example, by proposing new homes and businesses] or indirectly [for example, through extension of roads or other infrastructure]*).** Operation of Alternative A would have a less than significant impact to CEQA significance criterion SOC-1.

Decommissioning

- **SOC-1 (*Induce substantial population growth in an area, either directly [for example, by proposing new homes and businesses] or indirectly [for example, through extension of roads or other infrastructure]*).** Decommissioning of Alternative A would have a less than significant impact to CEQA significance criterion SOC-1.

4.13.4 Alternative B: Revised Site Layout

4.13.4.1 Direct and Indirect Impacts

This section presents the effects on population, income, employment, housing, public facilities and services as both a direct result of the project alternatives and as a result of the expenditures, income, employment, and tax revenues generated by the project alternatives. The discussion of socioeconomic impacts from Alternative B (Revised Site Layout) is separated into three categories: construction, operations and maintenance, and decommissioning.

Construction

Construction of Alternative B would utilize the same equipment, materials, labor force, and schedule as Alternative A, due to the identical number of WTGs and facilities required.

Population

Alternative B impacts regarding population from construction would be the same or similar as described for Alternative A.

Income

Alternative B impacts regarding income from construction would be the same or similar as those described for Alternative A.

Employment

Alternative B impacts regarding employment from construction would be the same or similar as described for Alternative A.

Housing

Alternative B impacts regarding housing from construction would be the same or similar as described for Alternative A.

Operation and Maintenance

Operation and maintenance of Alternative B would is assumed to require an identical workforce to Alternative A: up to 15 full-time and part-time staff, including wind turbine technicians, operations personnel, administrative personnel and managers.

Population

Alternative B impacts regarding population from operation and maintenance would be the same or similar as described for Alternative A.

Income

Alternative B impacts regarding income from operation and maintenance would be the same or similar as described for Alternative A.

Employment

Alternative B impacts regarding employment from operation and maintenance would be the same or similar as described for Alternative A.

Housing

Alternative B impacts regarding housing from operation and maintenance would be the same or similar as described for Alternative A.

Decommissioning

As Alternative B would contain the same number of WTGs and facilities as Alternative A, as well as be located within an identical size site, Alternative B impacts regarding decommissioning activities would be the same as described for Alternative A.

Population

Alternative B impacts regarding population from decommissioning would be the same or similar as described for Alternative A.

Income

Alternative B impacts regarding income from decommissioning would be the same or similar as described for Alternative A.

Employment

Alternative B impacts regarding employment from decommissioning would be the same or similar as described for Alternative A.

Housing

Alternative B impacts regarding housing from decommissioning would be the same or similar as described for Alternative A.

4.13.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Significance conclusions for the impacts identified for each phase of Alternative B (Construction, Operation and Maintenance, Decommissioning) would be identical to that presented for Alternative A, as addressed above.

4.13.5 Alternative C: Reduced Project North

4.13.5.1 Direct and Indirect Impacts

This section presents the effects on population, income, employment, and housing as both a direct result of Alternative C and as a result of the expenditures, income, employment, and tax revenues generated by the alternative. The discussion of socioeconomic impacts from Alternative C: Reduced Project North is separated into three categories: construction, operations and maintenance, and decommissioning.

Construction

Construction of Alternative C would utilize the same equipment and materials as Alternative A (Project); however, it is anticipated that the reduction in number of WTGs and ancillary facilities would result in fewer workers or a reduction in the duration of construction.

Population

Alternative C impacts regarding population from construction would be the same or similar as described for Alternative A.

Income

Any changes in revenue associated with Alternative C would be similar to that described above for Alternative A, although with a potentially smaller workforce and fewer WTGs, an incremental decrease in construction revenue and expenditures may occur. Therefore, any adverse changes and any benefits could be marginally reduced.

Employment

Construction employment for Alternative C would include the same skilled or semi-skilled positions as described above for Alternative A. As indicated in Table 3.13-3, the Bakersfield MSA and Kern County contain a large construction workforce in proportion to Alternative C labor force requirements. As Alternative C is assumed that it could require slightly require fewer workers than Alternative A, the maximum required construction workforce could be less than 262 personnel and would comprise even less of the available construction workforce of the local Bakersfield MSA (16,500 persons). Because Kern County has good access to the site from throughout the region, few, if any, workers are expected to relocate permanently to the area for construction. Alternative C would not adversely impact the local labor force.

Housing

Alternative C impacts regarding housing from construction would be the same as described for Alternative A.

Operation and Maintenance

It is assumed that operation and maintenance of Alternative C would require the same workforce as Alternative A. As this alternative would only reduce the total number of WTGs by nine, it is assumed that the workforce would be up to 15 full-time and part-time staff, including wind turbine technicians, operations personnel, administrative personnel and managers.

Population

Alternative C impacts regarding population from construction would be the same or similar as described for Alternative A.

Income

Any changes in revenue associated with Alternative C would be similar to that described above for Alternative A, although with a potentially smaller workforce and fewer WTGs, an incremental decrease in construction revenue and expenditures may occur. Therefore, any adverse changes and any benefits could be marginally reduced. Employment of operation and maintenance personnel would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services and new employment would be created in the region. The employment of such personnel would provide economic benefit to the local economy similar to that described for Alternative A.

Under Alternative C, all WTGs associated with Alternative A north of State Route 58 would not be constructed. As residential development is located directly east of this area, it is possible that any potential property value impacts could be slightly reduced to this area of residential development north of State Route 58. However, as discussed above for Alternative A, the nature of any such impact is speculative, and a quantitative analysis of the potential impact not feasible. Furthermore, as property values can often be weighed not only an individual site level, but at local level, this alternative would not preclude these residences by being surrounded by wind energy development within the immediate area. Due to these factors, Alternative C would be functionally the same as Alternative A with regard to property value impacts.

Employment

Alternative C impacts regarding employment from operation would be the same as described for Alternative A.

Housing

Alternative C impacts regarding housing from operation would be the same or similar as described for Alternative A

Decommissioning

The long-term economic and fiscal effects that closure and decommissioning activities would have on the study area would be speculative, because future conditions are unknown.

Population

Alternative C impacts regarding population from decommissioning would be the same or similar as described for Alternative A.

Income

Alternative C impacts regarding income from decommissioning would be the same or similar as described for Alternative A.

Employment

Alternative C impacts regarding employment from decommissioning would be the same or similar as described for Alternative A.

Housing

Alternative C impacts regarding housing from decommissioning would be the same or similar as described for Alternative A.

4.13.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Significance conclusions for the impacts identified for each phase of Alternative C (Construction, Operation and Maintenance, Decommissioning) would be identical to that presented for Alternative A, as addressed above.

4.13.6 Alternative D: Reduced Project Southwest

4.13.6.1 Direct and Indirect Impacts

This section presents the effects on population, income, employment, and housing as both a direct result of Alternative D and as a result of the expenditures, income, employment, and tax revenues generated by the alternative. The discussion of socioeconomic impacts from Alternative D: Reduced Project Southwest is separated into three categories: construction, operations and maintenance, and decommissioning.

Construction

Construction of Alternative D would use the same equipment and materials as Alternative A (Proposed Action); however, due to the reduction in number WTGs and ancillary facilities it is anticipated that fewer workers could be required or there would be a reduction in the duration of construction.

Population

Alternative D impacts regarding population from construction would be the same or similar as described for Alternative A.

Income

Any changes in revenue associated with Alternative D would be similar to that described above for Alternative A, although with a potentially smaller workforce and fewer WTGs, an incremental decrease in construction revenue and expenditures may occur. Therefore, any adverse changes and any benefits could be marginally reduced.

Employment

Construction employment for Alternative D would include the same skilled or semi-skilled positions as described above for Alternative A. As indicated in Table 3.13-3 and 3.13-4, the Bakersfield MSA and North Antelope Valley CCD contain a large construction workforce in proportion to Alternative C labor force requirements. As Alternative C is assumed that it could require slightly require fewer workers than Alternative A, the maximum required construction workforce could be less than 262 personnel and would comprise even less of the existing available construction workforce within a one-hour commute area, as described in Alternative A. Due to this number of available workers, few, if any, workers are expected to relocate permanently to the area for construction. Alternative C would not adversely impact the local labor force.

Housing

Alternative D impacts regarding housing from construction would be the same or similar as described for Alternative A.

Operation and Maintenance

It is assumed that operation and maintenance of Alternative D would require the same workforce as Alternative A. As this alternative would only reduce the total number of WTGs by 19, it is assumed that Alternative D operations would require up to 15 full-time and part-time staff, including wind turbine technicians, operations personnel, administrative personnel and managers.

Population

Alternative D impacts regarding population from construction would be the same or similar as described for Alternative A.

Income

Any changes in revenue associated with Alternative D would be similar to that described above for Alternative A, although with a potentially smaller workforce and fewer WTGs, an incremental decrease in construction revenue and expenditures may occur. Therefore, any adverse changes and any benefits could be marginally reduced. Employment of operation and maintenance personnel would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services and new employment would be created in the region. The employment of such personnel would provide economic benefit to the local economy similar to that described for Alternative A.

Under Alternative D, all WTGs associated with the southwestern section of Alternative A (Parcel 34) would not be constructed. As residential development is located directly east of this area, it is possible that any potential property value impacts could be slightly reduced to this area of residential development. However, as discussed above for Alternative A, the nature of any such impact is speculative, with a quantitative analysis and determination of such possible impact not feasible. Furthermore, as property values can often be weighed by not only an individual site level, but at local level geography, this alternative would not preclude these residences by being surrounded by wind energy development within the immediate area. Due to these factors, Alternative D would be functionally the same as Alternative A with regard to property value impacts.

Employment

Alternative D impacts regarding employment from operation would be the same or similar as described for Alternative A.

Housing

Alternative D impacts regarding housing from operation would be the same or similar as described for Alternative A

Decommissioning

The long-term economic and fiscal effects that closure and decommissioning activities would have on the study area would be speculative, because future conditions are unknown.

Population

Alternative D impacts regarding population from decommissioning would be the same or similar as described for Alternative A.

Income

Alternative D impacts regarding income from decommissioning would be the same or similar as described for Alternative A.

Employment

Alternative D impacts regarding employment from decommissioning would be the same or similar as described for Alternative A.

Housing

Alternative D impacts regarding housing from decommissioning would be the same or similar as described for Alternative A.

4.13.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Significance conclusions for the impacts identified for each phase of Alternative D (Construction, Operation and Maintenance, Decommissioning) would be identical to that presented for Alternative A, as addressed above.

4.13.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.13.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and Kern County would not approve the AEWP and would not amend the California Desert Conservation Area (CDCA) Plan. As a result, no wind energy project would be constructed, and the BLM and the County would continue to manage the site lands under their jurisdiction consistent with the existing land use designation in the CDCA Plan and the County General Plan and Zoning Code. No action would occur and existing conditions relevant to socioeconomics would continue. No impacts associated with the Project or alternatives would occur and existing conditions relevant to socioeconomics would continue. The land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan and Kern County regulations, including another renewable energy project.

4.13.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

Alternative E would result in no impact, and therefore no CEQA significance determinations are required.

4.13.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.13.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and the County would not approve the AEWP, but BLM would amend the CDCA Plan to make the BLM portions of the site unsuitable for future wind energy development. As a result, no wind energy project would likely be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan, as amended. No action would occur and no future development of the BLM portion of the AEWP site for wind energy would occur. Existing conditions relevant to socioeconomics would continue, but may be altered at some point in the future by construction of a potential project other than proposed wind energy development. No impacts associated with the AEWP would occur.

4.13.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would result in no impact, and therefore no CEQA significance determinations are required.

4.13.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.13.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and the County would not approve the AEWP, but BLM would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site. No action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP would occur. In the future, if another wind development project is implemented, similar impacts to socioeconomics as those described for the AEWP could occur.

4.13.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

As a future wind development project would likely be implemented under Alternative G, the socioeconomics significance determinations for Alternative G are assumed to be similar or the same as those described for Alternative A.

4.13.10 Cumulative Impacts

Cumulative socioeconomic impacts resulting from the AEWP would occur if similar impacts of other projects located within the geographic extent of this analysis were to occur in the same area and during the same time period as those impacts of the AEWP, including during the construction, operation and maintenance, and decommissioning phases.

4.13.10.1 Geographic Extent/Context

As described above and in Section 3.13, the socioeconomic effects of the AEWP would occur in Kern County. Additionally, as any socioeconomic impacts generated by the AEWP would be limited to occurring within the lifespan of the project, cumulative socioeconomic impacts would also occur only during the lifespan of the project.

4.13.10.2 Existing Cumulative Conditions

Past development and population growth within the area in proximity to the AEWP site have affected the population size and composition, settlement patterns, housing demand, business revenues and conflicts, as well as property values throughout the local area and region. Population increases have both an indirect and direct influence on development – e.g., housing demand increases and the workforce expands. In addition, continued development creates more infrastructure affecting business operations, revenues, and property values. Section 3.13 (Social

and Economic Setting) describes existing socioeconomic conditions within a local and regional study area of the AEWP, including demographics, housing characteristics, and labor characteristics, which have developed as a result of the past and present projects that comprise existing cumulative conditions.

Past and existing development of the local and regional study areas contribute to the cumulative impact of the AEWP and alternatives. These types of past and existing projects, together with reasonably foreseeable projects described below, could combine with impacts of the AEWP or an alternative to affect socioeconomics within the geographic extent of this cumulative analysis.

4.13.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, projects located on BLM lands, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider to be reasonably foreseeable. Many of the projects presented in Table 4.1-1 and considered part of the baseline conditions have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not yet been completed for projects determined to be located within the geographic extent of this cumulative analysis, the potential effects of all projects comprising the existing and reasonably foreseeable cumulative conditions relevant to the AEWP were considered in the cumulative impacts analyses in this Final EIS/EIR.

Based on the construction schedule of the AEWP in Section 2.1.3.3 (Construction of the AEWP is anticipated to commence in the spring of 2012 and require 9 to 12 months to complete), of the cumulative projects listed in Table 4.1-1, Table 4.13-1 provides a summary of projects and labor needs (as provided by each projects environmental document) which characterize the reasonably foreseeable projects affecting socioeconomic conditions based on potential overlapping of construction schedule with the AEWP, projects where needs for a similar renewable energy based skill set construction and operational labor force and potential increases in local population (both temporary and permanent) would be required, and projects where data on workforce was available.

Table 4.13-1. Cumulative Project Labor Needs

Project	Construction Labor Need	Operational Labor Need
Alta East Wind Energy Project	262	15
Tehachapi Renewable Transmission Project Segments 4-11 (SCE)	100-300	0
Pacific Wind Energy Project (enXco)	100-300	8-12
Alta Infill Wind Project	230	30
Catalina Renewable Energy Project (enXco)	250	16-24
Lower West Wind Energy Project	25	2
Morgan Hills Wind Energy Project	262	10
North Sky River Wind Energy Project and Jawbone Wind Energy Project	120-150	32
Antelope Valley Solar Project	30	N/A
Total	*1,809*[1]	*125*

[1] Represents total using maximum number where a range of labor need was provided
Source: KCPD, 2011c; CPUC, 2011.

Some possible cumulative effects include: increased temporary employment during construction, increased permanent employment during operation and maintenance, alter business revenues, or alteration of property values.

4.13.10.4 Construction

Construction of the AEWP could utilize the same workforce as the projects listed above in Table 4.13-1, as well as many of the additional projects listed in Table 4.1-1. Impacts associated with construction activities would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The potential for socioeconomic impacts of AEWP construction to combine with the effects of other projects within the geographic scope of this cumulative analysis is described below.

Changes to Local Employment or Labor Force

The AEWP would draw on the same labor force as many of the other projects listed in Table 4.1-1, with particular emphasis on those renewable energy projects identified in Table 4.13-1 (due to similar construction skill set), and construction would likely occur at the same time as some of the other projects. As shown in Table 4.13-1, the combined construction demands of a number of known overlapping renewable energy projects and the AEWP would require a maximum of approximately 1,809 workers if the peak construction periods for each project coincided. As shown in Table 3.13-3, the Bakersfield MSA and North Antelope Valley CCD contain a large construction workforce in proportion to cumulative labor force requirements and would comprise a small portion of the available construction workforce of the one-hour area (excess of 22,000 construction workers). However, a number of projects identified in Table 4.1-1 are located in northern Los Angeles County, which could increase the use of skilled labor and the drawdown of available workers. However, because a number of projects identified in Table 4.1-1 are considered proximate enough to the Los Angeles metropolitan area to draw upon the large labor force of that region.

In the event workers outside of a one-hour were to seek employment with AEWP construction, this suggests that there is likely to be a considerable additional potential labor force available that could be willing to commute weekly or temporarily relocate to the local area.

Even under these circumstances, the total combined renewable energy project construction labor demands of 1,809 within a one-hour commute of the AEWP would only account for only 8.0 percent of the available construction workforce within a one-hour commute. Due to this small percentage, coupled with the available unemployed within the Bakersfield MSA and North Antelope Valley CCD (refer to Tables 3.13-3 and 3.13-4), it is assumed that any drawdown of available workers to Los Angeles County based projects identified in Table 4.1-1 would not result in an adverse effect to the supply of available workforce. Consequently, from within a one-hour labor force perspective, no substantial shortages of adequately skilled construction workers are anticipated.

A cumulative influx in construction labor to the area could create demand for temporary housing that is greater than the existing supply of temporary lodging. However, there are a number of suitable and available temporary lodging at local hotel/motel lodging and private and public RV/campgrounds are also available for local accommodations within a one hour commute area of the AEWP site. This is assumed to be more than sufficient temporary housing for construction workers seeking temporary housing under a worst-case scenario.

In summary, there is potential for short-term adverse cumulative social and economic impacts in the area associated with the demand for skilled construction labor (particularly for the solar, wind, and geothermal projects within the County). While there may be increased demand for temporary local housing from construction workers seeking to commute weekly to the local area, given the estimated availability of lodging, as well as the supply/demand system of temporary lodging, it is expected that there adequate and suitable housing to meet any future construction worker temporary housing demand would be available for those planning such accommodations. Therefore, no major adverse cumulative impacts would be expected to result related to employment, labor, and housing

Changes in Revenue

Because AEWP would not result in any long-term changes or impacts to agriculture, business uses, or cause any mineral extraction disruptions, and would not require the removal or relocation of any business uses, the AEWP would not contribute to any cumulative adverse impacts to business revenues. The new temporary employment and purchase of local materials, food, beverages, and other commodities, would contribute with cumulative projects identified in Table 4.1-1 toward cumulative economic benefits to the local economy.

4.13.10.5 Operation and Maintenance

Operation and Maintenance

Operation and maintenance of the AEWP would require a similar workforce to many of the other projects listed in Table 4.1-1, particularly those in the utilities trades. These projects are identified in Table 4.13-1.

Changes to Local Employment or Labor Force

As shown in Table 4.13-1, the combined operational worker demands of a number of known overlapping projects and the AEWP would require a maximum of approximately 125 operational workers. As shown in Table 3.13-3 and 3.13-4, the Bakersfield MSA and North Antelope Valley CCD contain a large utilities based workforce in proportion to cumulative labor force requirements. Additionally, a number of projects identified in Table 4.1-1 are located in northern Los Angeles County, and are expected to be proximate enough to the Los Angeles metropolitan area to draw upon the large labor force of that area. Even under the circumstances identified in Table 4.13-1, the total combined renewable energy project operational labor demands of 125 within a one-hour commute of the AEWP. This total accounts for 1.0 percent of the available utilities based workforce within a one-hour commute. Given the estimated labor force, coupled with the available unemployed within the Bakersfield MSA and North Antelope Valley CCD (refer to Tables 3.13-3 and 3.13-4), it is assumed that any drawdown of available workers to Los Angeles County based projects identified in Table 4.13-1 would not result in an adverse effect to the supply of available workforce.

However, some workers are expected to relocate to the local and regional areas AEWP for operation. In the event any of the permanent workers do relocate from outside the AEWP area, there are ample vacant housing units available (as shown in Table 3.13-2). Due to the availability of housing to any relocating employees, cumulative impacts on local employment or labor force would not be considerable.

Changes in Revenue

As with construction, employment of operation and maintenance personnel, both for the AEWP and other planned projects, would be beneficial to local businesses and the regional economy through increased expenditure of wages for goods and services and new employment would be created in the region. The new employment and purchase of local materials, food, beverages, and other commodities, would contribute with other projects toward cumulative economic benefits to the local economy.

Changes in Property Values

Due to the AEWP's remote location and distance from most other projects listed in Table 4.1-1, the AEWP would not combine with the majority of them to affect property values. Only the Alta Infill II Project is considered to be in close enough proximity to the AEWP to affect the same residential properties. The AEWP could potentially combine with the Alta Infill II Project to affect property values, but as described above for the Alternative A, the effects of industrial facilities on property value are generally smaller in comparison to other relevant factors and generally diminish within five years to be negligible. As such, the AEWP's contribution to any cumulative property value impacts with the cumulative projects identified in Table 4.1-1 is considered minimal and would not be considerable.

4.13.10.6 Decommissioning

Upon permanent closure of the AEWP, it is unknown what the potential cumulative contribution of the AEWP to socioeconomic impacts could occur as the number and proximity of cumulative projects in 30 years (expected life of the AEWP) is unknown. It is assumed that the analysis of cumulative construction impacts discussed above in Section 4.13.10.4 could occur during decommissioning. Upon permanent closure of the AEWP, the beneficial socioeconomic contributions to the cumulative economic conditions of the region would no longer occur.

4.13.10.7 CEQA Significance and Impact Determinations, Cumulative

Significance conclusions for the cumulative impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.13.2. Only those significance criteria which were determined in Section 4.13.2 to be relevant to the project are addressed below

Construction

- **SOC-1 (Induce substantial population growth in an area, either directly [for example, by proposing new homes and businesses] or indirectly [for example, through extension of roads or other infrastructure]).** Construction labor from a cumulative perspective would be drawn from the County (AEWP) and Los Angeles County (assumed for a number of cumulative projects identified in Table 4.1-1) and few workers from outside the region would be necessary for the AEWP. Consequently, the AEWP contribution to any cumulative impacts on local employment or labor force would not be considerable. Construction would only last for a limited time, Mitigation Measure 4.13-1 (Workers Plan) requires local hiring, which would reduce the likelihood of local relocations and decrease the cumulative contribution of the AEWP. Any impacts would be less than significant.

Operation and Maintenance

- **SOC-1 (Induce substantial population growth in an area, either directly [for example, by proposing new homes and businesses] or indirectly [for example, through extension of roads or other infrastructure]).** Operational labor from a cumulative perspective would be drawn from the County (AEWP) and Los Angeles County (assumed for a number of cumulative projects identified in Table 4.1-1) and few workers from outside the region would be necessary for the AEWP. Consequently, the AEWP contribution to any cumulative impacts on local employment or labor force would not be considerable. Any impacts would be less than significant.

Decommissioning

- **SOC-1 (Induce substantial population growth in an area, either directly [for example, by proposing new homes and businesses] or indirectly [for example, through extension of roads or other infrastructure]).** Decommissioning labor is assumed to be drawn from within a one-hour commute area identical to that discussed for construction and is anticipated to result in minimal relocations. Any contribution to cumulative impacts on labor and employment would not be considerable and would be less than significant.

4.13.11 Mitigation Measures

MM 4.13-1 **Workers Plan.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall comply with the following:

1. The project operator shall encourage all contractors of the project to hire at least 25 percent of their workers from the local Kern County communities. The project proponent shall provide the contractors a list of training programs that provide skilled wind and solar workers and shall require the contractor to advertise locally for available jobs, notify the training programs of job availability, all in conjunction with normal hiring practices of the contractor. The project proponent shall submit a letter detailing the hiring efforts prior to commencement of construction.

4.13.12 Residual Impacts After Mitigation

All adverse impacts on socioeconomics resulting from construction, operation and maintenance, or decommissioning of the AEWP or an alternative would be avoided or substantially reduced.

4.14 Geology and Soil Resources

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) to geology and soil resources. The applicable environmental and regulatory settings are discussed in Chapter 3.14. Mitigation measures that would reduce impacts, where applicable, are also discussed.

4.14.1 Methodology for Analysis

This section discusses potential environmental impacts to geology and soil resources associated with implementation of the AEWP and recommends measures to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the AEWP and alternatives. A discussion of cumulative impacts related to geology and soil resources is also included in this section.

This analysis first established baseline conditions for the environmental setting relevant to geology and soil resources, presented in Section 3.14 of this Final EIS/EIR. These baseline conditions were evaluated based on their potential to be affected by construction activities, operation and maintenance activities, and decommissioning of the AEWP and/or an alternative to the AEWP. Impacts to geology and soil resources were identified based on the predicted interaction between construction, operation, and decommissioning with the environmental setting.

4.14.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on geology and soil resources if it would:

SO-1 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;

ii. Strong seismic ground shaking;

iii. Seismic-related ground failure, including liquefaction; or,

iv. Landslides;

SO-2 Result in substantial soil erosion or the loss of topsoil;

SO-3 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

SO-4 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;

SO-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.14.3 Alternative A: Project

4.14.3.1 Direct and Indirect Impacts

Construction

Construction activities that would affect soil resources include excavation, grading, and soil compaction to prepare the site for installation of project components. Blasting activities may also occur during the construction period, particularly as related to excavations required for wind turbine generator (WTG) foundations. AEWP facilities would consist of WTGs, an electrical collection system for collecting the power generated by each WTG, an electrical substation, access roads, and an operation and maintenance (O&M) building with an associated septic system. The impacts on soil resources associated with construction of the AEWP are described below.

Soil Erosion and Loss of Topsoil

Soil-disturbing activities that would occur during construction of the AEWP, including excavation and grading, would have the potential to result in erosion and loss of topsoil. If blasting is required during excavations, such activities would also contribute to soil disturbance and could facilitate the occurrence of erosion and loss of topsoil. Erosion control features and best management practices (BMPs) included in the AEWP's federally required Stormwater Pollution Prevention Plan (SWPPP) would minimize or prevent disturbed and/or exposed materials from mobilizing in such a way that soil erosion or loss of topsoil could occur. Erosion-minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions installed before clearing and grading begins and mulching, seeding, or other suitable stabilization measures installed after construction begins would protect exposed areas during construction activities. Please see Water Resources, Section 4.19, for additional discussion of the AEWP's SWPPP and construction-related erosion impacts.

The AEWP's potential to alter the existing drainage patterns of the site would be minimized through compliance with design specifications and BMPs identified by the BLM and discussed in Section 4.19.10 (Water Resources) of this EIS/EIR. Erosion and loss of topsoil would also be minimized through implementation of soil-related BMPs identified by the BLM, listed below in Section 4.14.11. In addition, implementation of the following mitigation measures would be required in order to avoid and/or minimize potential erosion and loss of topsoil:

- 4.19-8 (Flood and Erosion Structure Damage Protection), and
- 4.19-9 (Construction SWPPP Specifications)

Mitigation Measures 4.19-8 (Flood and Erosion Structure Damage Protection) and 4.19-9 (Construction SWPPP Specifications) would ensure that project structures are designed, engineered, constructed, and maintained to avoid potential damage associated with erosion, and also ensure that the SWPPP would be developed and implemented for the AEWP includes specific BMPs to maintain existing surface drainage patterns, thus minimizing potential adverse impacts associated with erosion and loss of topsoil. Therefore, impacts associated with soil erosion and loss of topsoil during AEWP construction would be avoided or substantially reduced.

Seismic Hazards and Unstable Geologic Units

The western portion of the site is located within an Alquist-Priolo Special Studies Zone related to the Garlock Fault. Additionally, the San Andreas Fault is located within 50 miles of the site and can pose substantial risk to project structures during seismic events. Structures on the site may be subject to severe ground shaking, which may result in structural damage. Structural damage to WTGs, overhead transmission lines, or other AEWP facilities as they are erected could injure construction workers at the site.

As described in Section 3.14.1, the AEWP area is considered to have low potential for liquefaction, lateral spreading, dynamic compaction, hydrocompaction, and subsidence. The probability of liquefaction, mass wasting, subsidence, or expansive soil at the AEWP site and along transmission line alternatives is expected to be low to negligible. In addition, major structures will be designed to withstand the strong ground motion of a Design Basis Earthquake (DBE), as defined by the 2007 CBC.

Implementation of Mitigation Measure 4.14-2 **(**Conduct Geotechnical Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design) would be required in order to avoid and/or minimize potential impacts associated with unstable geologic impacts.

Liquefaction and Lateral Spreading. With regard to liquefaction specifically, there is no evidence in the area that liquefaction induced by seismic ground motions has occurred. The lack of groundwater in the upper portions of the soil along with the age and density/stiffness of the geologic formation are the basis of the assumption that the area is not prone to liquefaction surface distress. Since the AEWP site is considered to have low potential for liquefaction, the potential for lateral spreading to occur is also considered low. Further, the turbine foundations and structures would be engineered to withstand anticipated lateral forces in association with strong seismic ground motion. Structure failure at the AEWP site is not likely and, with the implementation of Mitigation Measure 4.14-1 (Geotechnical Study) impacts would be reduced, but not completely avoided.

Subsidence. Mitigation Measure 4.14-1 (Geotechnical Study), presented below in Section 4.14.11, would address impacts related to subsidence. Mitigation Measure 4.14-1 (Geotechnical Study)requires that design-level geotechnical studies will be performed by the Project proponent and will include detailed characterization of sub-surface conditions, including identification of any potentially detrimental chemicals or soil features, as well as proposed solutions regarding how any identified subsurface hazards should be addressed or avoided. In the event that potentially expansive soils (discussed below) or collapsible soils are encountered during AEWP construction, appropriate design features, including excavation of potentially expansive or collapsible soils during construction and replacement with engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils would avoid impacts related to soil expansion or collapse.

WTG Failure. The following analysis discusses the potential for WTG failure to occur during a seismic event. Based on review of existing geotechnical reports, published literature and the International Building Code (IBC), the AEWP site is located in a seismically active area. The published design parameters from the geotechnical report, along with the IBC codes, require that structural engineering for the AEWP will account for large horizontal ground accelerations associated with a maximum credible earthquake (MCE) event. Such an event would introduce additional loads to AEWP infrastructure, and structures would therefore be designed with

consideration of potential site-specific seismic loads, and including appropriate reinforcing steel and concrete to ensure structure stability.

Final engineering and design of AEWP structures will be based on an assumed probability that an MCE event would occur during the design life of the turbines, about 30 years. Seismic and ground rupture hazards will be minimized by conformance with the recommended seismic design criteria of the 2007 California Building Code.

As discussed in Section 2.1.3.2, the AEWP's WTGs are designed to withstand wind speeds in excess of 120 miles per hour, which exceeds recorded and projected maximum wind speeds at the site. In addition, with the implementation of Mitigation Measure 4.14-1 (Geotechnical Study), impacts related to seismic-induced structural failure of a WTG would be reduced. It is anticipated that AEWP infrastructure would be designed and constructed properly, and the turbines would therefore be able to withstand an MCE event.

Expansive Soils

Section 3.14.1 describes that subsurface conditions at the AEWP site and in the vicinity are not considered to be expansive. If permanent AEWP infrastructure were sited on expansive soils, the soil characteristics could result in destabilization of the infrastructure, and possibly in subsequent hazards to the stability of infrastructure in the immediate vicinity. Geotechnical investigations would be required prior to construction to ensure that construction of the AEWP would not locate infrastructure on expansive soil, and would not create associated substantial risks to life or property.

Implementation of Mitigation Measure 4.14-1 (Geotechnical Study) would be required in order to avoid and/or minimize potential impacts associated with unstable geologic impacts. Implementation of this measure would address impacts related to expansive soils by requiring that design-level geotechnical studies be performed by the Project proponent which include detailed characterization of sub-surface conditions, including identification of any potentially detrimental chemicals or soil features, as well as proposed solutions regarding how any identified subsurface hazards should be addressed or avoided.

Septic Tank and Leach Field

Section 2.1.3 describes that the operations and maintenance facility associated with the AEWP would include a restroom. Due to the location of the AEWP site away from existing sewer facilities, it is reasonably assumed that the restroom will require a septic system for waste disposal. The septic system would be permitted through Kern County and the Lahontan Regional Water Quality Control Board (RWQCB), and compliant with applicable requirements of the Kern County Environmental Health Services Department in order to ensure that the septic system and leach field are designed correctly to avoid resulting in adverse effects to human health, natural habitat, and/or groundwater resources. As such, this system would be located away from surface drainages and protected from potential surface runoff. If located in the older alluvial soils, leach line wastewater infiltration would be slow due to the dense soils, while the younger alluvial, sandy soils would experience moderate to fast wastewater infiltration. Proper siting and design would minimize potential for a health impact from flooding. Construction of the AEWP would not place a septic tank or leach field on soils incapable of adequately supporting the septic system, and does not include any other alternative waste water disposal systems.

Operation and Maintenance

Operation and maintenance activities that could affect soil resources include grading and gravel application to maintain access roads throughout the site, which could potentially lead to erosion and loss of topsoil. Grading activities during operations would be minimal. As described in Section 2.1.3.4 (Operation and Maintenance), routine maintenance would include the regular inspection and maintenance of access roads, crane and turbine pads, erosion control systems, and perimeter fencing areas to ensure minimal degradation. In addition, as described in Section 3.14.1 (see "Geologic Hazards"), AEWP turbines will be placed on compacted hill tops or ridges that will be graded to minimize the potential for movement, and the potential for direct impact from mass wasting at the site or along transmission line alternatives is considered low. Due to the minimal ground-disturbing activities that would occur during operations, the maintenance of erosion control systems, the topography of the AEWP site, and the low average annual precipitation for the area, the likelihood of erosion and loss of topsoil to occur as a result of routine maintenance activities is considered minimal. Re-grading and re-graveling of access roads for routine maintenance would not alter drainage patterns during the operational period, and would not lead to a substantial increase in erosion or loss of topsoil, as such effects would be site-specific, isolated to the location of required improvements, and would be managed per the aforementioned erosion control systems. It is anticipated that any increase in surface water runoff resulting from permanent AEWP features would be location-specific, and that such effects would not influence surface runoff in a manner which would result in erosion or loss of topsoil.

Continued operation of the septic system would not adversely impact soil resources. The septic system would be placed in soils that are capable of adequately supporting the septic system, and continued operation of this system would not lead to any additional impacts.

Seismic Hazards

Potential seismic hazard impacts during operation and maintenance of Alternative A would be the same as described under "Construction." As described under "Construction," implementation of Mitigation Measure 4.14-1 (Geotechnical Study) during construction of the AEWP would reduce the potential for failure of AEWP structures from seismic hazards. Impacts associated with seismic hazards during AEWP operations would be less than significant.

Decommissioning

Decommissioning of the AEWP would include removal of the wind turbines, cables, and other infrastructure support facilities. The foundations would be removed to a depth determined by local, State, and federal regulations; removal of access roads and restoration of disturbed lands would be in accordance with regulations and/or landowners contractual commitments. As described in Section 2.1.3.6, design features and best management practices included by the Proponent as part of the AEWP and intended to avoid and minimize environmental impacts are considered part of the AEWP description. Prior to the termination of the ROW authorization, a decommissioning plan would be developed and approved by the BLM, and would include a site reclamation plan and monitoring program. It is anticipated that the BMPs and stipulations developed for construction activities would be applied to similar activities during the decommissioning phase, including as related to the protection of soil resources from potentially adverse impacts. Additionally as described in Section 2.1.3, during decommissioning of the AEWP, topsoil from all decommissioning activities would be salvaged and reapplied during final

reclamation, and disturbed areas would be reclaimed with vegetation. These erosion control measures would be avoid and/or minimize potential adverse effects associated with soil disturbance. Earth-disturbing activities that would occur during the decommissioning phase could result in soil erosion and/or loss of topsoil, similar to the effects of earth-disturbing activities that would occur during the construction phase, but these effects would be minimized through implementation of the aforementioned BMPs and the decommissioning plan and impacts would be avoided or substantially reduced.

4.14.3.2 CEQA Significance and Impact Determinations, Alterative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP are presented below based on the CEQA Significance Criteria presented in Section 4.14.2.

Construction

- **SO-1 (Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42; ii. Strong seismic ground shaking; iii. Seismic-related ground failure, including liquefaction; or, iv. Landslides).** As discussed above, the AEWP site is located within a seismically active area and requires measures to prevent or minimize potential impacts, including structural failures associated with ground-shaking. The design parameters from the Geotechnical report, along with the IBC codes, require the structural engineer to account for large horizontal ground accelerations that would be caused from a MCE event. Implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design), which requires the project proponent to conduct a Geotechnical Study to assess geologic hazards that could affect the AEWP, and provide recommendations as to the placement of AEWP infrastructure, would reduce impacts from a known earthquake fault or strong seismic ground shaking to a less than significant level.
- The AEWP site is considered to have low potential for liquefaction. As such, the potential for lateral spreading to occur is also considered low. The AEWP would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction and impacts are less than significant.
- As described above, the potential for direct impact from landslide event(s) at the AEWP site or along transmission line alternatives is considered low and the potential for the AEWP to expose people or structures to substantial adverse effects involving landslides is less than significant.
- **SO-2 (Result in substantial soil erosion or the loss of topsoil).** The potential for the AEWP to cause erosion or loss of topsoil would be minimized by BMPs and mitigation measures as listed below in Section 4.14.11. Potential impacts under significance criterion SO-2 would be less than significant after implementation of mitigation measures.

- **SO-3 (Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse).** The potential for the AEWP to lead to impacts related to unstable geologic units is low. Implementation of BMPs and Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design), listed in Section 4.14.11, would reduce potential impacts to a less than significant level.
- **SO-4 (Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property).** The potential for AEWP structures to be located on expansive soils is low. With implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design), described below in Section 4.14.11, impacts would be reduced to a less than significant level.
- **SO-5 (Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water).** A septic system installed as part of the AEWP would not be placed in soils incapable of supporting such as system. No impact would occur.

Operation and Maintenance

- **SO-1 through SO-5**: Potential impacts to geology and soil resources during operation and maintenance of the AEWP would be site-specific, and would be reduced through the maintenance of erosion control measures during operations, as well as through proper engineering and design during construction. Any impacts to geology and soil resources during operations of the AEWP would be less than significant under criteria SO-1 through SO-5.

Decommissioning

Decommissioning of the AEWP would require earth-disturbing activities similar to those that would occur during construction; significance determinations for these activities and others that would occur during decommissioning are provided below.

- **SO-1 (Expose people or structures to potential substantial adverse effects, including the risk of loss, injury).** Decommissioning of the AEWP would remove infrastructure from the area, and would not introduce any new infrastructure such that hazards associated with potential landslide events would occur. No impact would occur.
- **SO-2 (Result in substantial erosion or loss of topsoil).** Earth-disturbing activities during decommissioning of the AEWP would be similar to those required during construction, including excavation and grading. The potential for these activities to cause erosion or loss of topsoil would be minimized by BMPs and mitigation measures, described below in Section 4.14.11. Potential impacts under criterion SO-2 would be less than significant with the implementation of these measures.
- **SO-3 (Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse).** Decommissioning of the AEWP would remove infrastructure from the site and would not introduce any new infrastructure such that hazards associated with unstable geologic units would occur. No impact would occur.

- **SO-4 (Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property).** Decommissioning of the AEWP would remove infrastructure from the site and would not introduce any new infrastructure such that hazards associated with expansive soils would occur. No impact would occur.
- **SO-5 (Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water).** Decommissioning of the AEWP would not introduce any new infrastructure, including septic systems. No impact would occur.

4.14.4 Alternative B: Revised Site Layout

Alternative B would involve the same components as Alternative A, except that a number of WTGs have been relocated and associated access roads rerouted. Alternative B contains 106 WTGs generating 318 MWs, as does Alternative A, and the area of disturbance under both alternatives would be the same.

4.14.4.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative B on soil resources is organized according to the following project phases: construction, operation and maintenance, and decommissioning.

Construction

Alternative B would implement a revised site layout compared to Alternative A, but would not alter the ground-disturbing activities required during construction that could result in impacts associated with soil erosion and loss of topsoil, unstable geologic units, expansive soils, or septic tank and leach field. Construction of Alternative B would result in the same potential impacts to soil resources as described in Section 4.14.3 for Alternative A.

Operation and Maintenance

Operation and maintenance activities under Alternative B would be the same as those under Alternative A, and potential impacts to soil resources during operation and maintenance of this alternative would be the same as described in Section 4.14.3 for Alternative A.

Decommissioning

Decommissioning activities under Alternative B would be the same as those under Alternative A, and potential impacts to soil resources during decommissioning of this alternative would be the same as described in Section 4.14.3 for Alternative A.

4.14.4.2 CEQA Significance and Impact Determinations, Alterative B: Revised Site Layout

Site-specific geology and soils impacts under Alternative B would be distributed slightly differently than under Alternative A, due to the revised site plan; however, with implementation of BMPs and Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design), as well as Mitigation Measures 4.19-8 (Flood and Erosion Structure Damage Protection) and 4.19-9 (Construction SWPPP Specifications), the CEQA significance

determinations for geology and soils impacts under Alternative B would be identical to those described above for Alternative A.

4.14.5 Alternative C: Reduced Project Alternative North

Alternative C would implement 97 WTGs generating up to 291 MWs, which is 9.3 percent less than the 106 WTGs and 318 MWs that would occur under Alternatives A and B. Potential impacts to soil resources are anticipated to be proportionately less under Alternative C than under Alternatives A and B, because less infrastructure would be installed and less ground-disturbing activities would occur. Therefore, potential impacts to mineral resources are generally anticipated to be less under this alternative, as described below.

4.14.5.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative C on mineral resources is organized according to the following project phases: construction, operation and maintenance, and decommissioning.

Construction

Due to the construction of fewer WTGs under Alternative C, the proportionately less ground disturbance would occur, and associated potential for impacts to soil resources to occur would also be less, as described below.

Soil Erosion and Loss of Topsoil

Soil-disturbing activities including excavation and grading would have the potential to result in erosion and loss of topsoil. Erosion control features and BMPs included in the Alternative A federally required SWPPP would minimize or prevent disturbed and/or exposed materials from mobilizing in such a way that soil erosion or loss of topsoil could occur. Erosion and loss of topsoil would also be minimized through implementation of soil-related BMPs identified by the BLM, listed below in Section 4.14.11.

Mitigation Measures 4.19-8 (Flood and Erosion Structure Damage Protection) and 4.19-9 (Construction SWPPP Specifications)would ensure that project structures are designed, engineered, constructed, and maintained to avoid potential damage associated with flooding and/or erosion, and also ensure that the SWPPP would be developed and implemented for Alternative C includes specific BMPs to maintain existing surface drainage patterns, thus minimizing potential adverse impacts associated with soil erosion and loss of topsoil. Therefore, impacts associated with soil erosion and loss of topsoil during construction of Alternative C would be avoided or substantially reduced.

Unstable Geologic Units

The probability of liquefaction, mass wasting, subsidence, or expansive soil at the Alternative A site and along transmission line alternatives is expected to be low to negligible; due to the construction of fewer WTGs under Alternative C than under Alternatives A and B, the potential for impacts associated with unstable geologic units to occur would be proportionately less. Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design), presented below in Section 4.14.11, requires that design-level geotechnical studies to be performed by the Project proponent shall

include detailed characterization of sub-surface conditions, including identification of any potentially detrimental chemicals or soil features, as well as proposed solutions regarding how any identified subsurface hazards should be addressed or avoided. In the event that potentially expansive soils (discussed below) or collapsible soils are encountered during construction of Alternative C, appropriate design features, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils would avoid impacts related to soil expansion or collapse.

Expansive Soils

The potential for expansive soils to be encountered during construction of Alternative C would be less than under Alternatives A or B, due to the construction of fewer WTGs; the nature of potential impacts associated with expansive soils would be the same as previously described. Implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design) would address impacts related to expansive soils by requiring that design-level geotechnical studies are performed by the Project proponent.

Septic Tank and Leach Field

Alternative C would include the construction of a septic tank and leach field, as would Alternatives A and B, and potential impacts to soil resources associated with this system would be the same as previously described.

Operation and Maintenance

Due to the construction of fewer WTGs under Alternative C, operational activities such as grading and gravel application to maintain access roads would be less than under Alternatives A and B, and the associated potential to result in impacts to soil resources would also be less, although the nature of such impacts would be the same as previously described.

Decommissioning

Potential impacts to soil resources associated with decommissioning of Alternative C would be similar to construction impacts of this alternative, and would be proportionately less than decommissioning impacts of Alternatives A and B, due to the decommissioning of fewer WTGs.

4.14.5.2 CEQA Significance and Impact Determinations, Alterative C: Reduced Project Alternative North

Geology and soils impacts would be slightly decreased under Alternative C when compared to Alternative A. With the implementation of BMPs and the mitigation measures identified above, the CEQA significance determinations for geology and soils impacts under Alternative C would be the same as described for Alternative A.

4.14.6 Alternative D: Reduced Project Alternative Southwest

Alternative D would implement 87 WTGs generating up to 267 MWs, which is 11.5 percent less than the 97 WTGs and 291 MWs that would occur under Alternative C, and 21.8 percent less than the 106 WTGs and 318 MWs that would occur under Alternatives A and B. Potential impacts to soil resources would be proportionately less under this alternative, although the nature

of potential impacts to soil resources would be the same as previously described, and as summarized below.

4.14.6.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative D on soil resources is organized according to the following project phases: construction, operation and maintenance, and decommissioning.

Construction

Potential impacts of Alternative D to soil resources that could occur during construction would be the same as described above for Alternative C, but would be proportionately less intense due to the implementation of fewer WTGs and access roads.

Operation and Maintenance

Operation and maintenance of Alternative D would include the same activities as described above for Alternatives A through C, but would have less potential to result in impacts to soil resources due to the maintenance of fewer WTGs and access road segments.

Decommissioning

Decommissioning of Alternative D would result in similar impacts to soil resources as construction. Potential impacts to soil resources associated with decommissioning Alternative D would be the same as described above for Alternative C, but would be proportionately less intense due to the implementation of fewer WTGs and access roads.

4.14.6.2 CEQA Significance and Impact Determinations, Alterative D: Reduced Project Alternative Southwest

Geology and soils impacts would be slightly decreased under Alternative D when compared to Alternative C. With the implementation of BMPs and the mitigation measures identified above, the CEQA significance determinations for geology and soils impacts under Alternative D would be the same as described for Alternative A.

4.14.7 Alternative E: No Issuance of a ROW Grant and No Land Use Plan Amendment (No Action / No Project)

With Alternative E, none of the project components would be built. This alternative is equivalent to the No Project Alternative under the CEQA (§15126.6(e)) and the No Action Alternative under NEPA.

4.14.7.1 Direct and Indirect Impacts

Under Alternative E, no action would occur and existing conditions relevant to soil resources would continue. No impact would occur; however, the area would be available to development in the future. In the future, if other development projects are implemented, similar impacts to soil resources as those described for the AEWP and alternatives could occur.

4.14.7.2 CEQA Significance and Impact Determinations, Alterative E: No Issuance of a ROW Grant and No Land Use Plan Amendment (No Action / No Project)

Alternative E would result in no impacts to geology and soil resources.

4.14.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

With Alternative F, none of the AEWP components would be built (No Project), but an amendment to the CDCA Plan would identify the AEWP site as unsuitable for wind energy development.

4.14.8.1 Direct and Indirect Impacts

Under Alternative F, no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to soil resources would continue, but may be altered at some point in the future by construction of a potential project other than proposed wind energy development. No impacts associated with the AEWP or an alternative would occur.

4.14.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would result in no impacts to geology and soil resources.

4.14.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

With Alternative G, none of the AEWP components would be built (No Project), but an amendment to the CDCA Plan would identify the AEWP site as suitable for wind energy development.

4.14.9.1 Direct and Indirect Impacts

Under Alternative G, no action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP or an alternative would occur. In the future, if another wind development project is implemented, similar impacts to soil resources as those described for the AEWP could occur.

4.14.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

Alternative G would result in similar impacts to geology and soil resources as those of the AEWP.

4.14.10 Cumulative Impacts

4.14.10.1 Geographic Extent/Context

The geographic extent for analysis of cumulative impacts related to soil resources is the AEWP site itself, and access roads to and from the site that would be used during construction, operation and maintenance, and decommissioning of the AEWP. Any potential impacts to geology and soil resources related to construction, operation and maintenance, and decommissioning of the AEWP would be site-specific and would only occur within the site boundary or along access roads; off-site soil resources would not be affected.

4.14.10.2 Existing Cumulative Conditions

Past or present projects which contribute to existing cumulative conditions in the AEWP area, as relevant to geology and soil resources, are limited to State Route 58, an east-west oriented highway which traverses the northernmost portion of the AEWP site, and is paved with asphalt. When this highway was originally constructed it may have caused impacts to soil resources that were similar to impacts of the AEWP; however, State Route 58 is does not result in any ongoing impacts to soil resources and would not combine with impacts of the AEWP to result in cumulative effects.

4.14.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Figure 4.1-1 (Cumulative Projects) indicates that there are no cumulative projects within the AEWP site, although one is adjacent to the south (18). In addition, several projects within six miles of the AEWP site (13, 30, 44, 45, 46) could involve use of the same access roads as the AEWP. These projects are summarized below.

- The California High-Speed Train Project (53) is planned to be routed adjacent to the southwest portion of the AEWP site, and is currently being assessed in a joint CEQA/NEPA process. It is not known when environmental review of this project will be complete, or when project construction may occur; however, due to the scale of the project, including 800 miles of railroad track, it is considered highly unlikely that construction of the California High-Speed Train Project would occur at the same time and in the same vicinity as construction of the AEWP.
- Rising Tree Wind Energy Project (18) is adjacent to the south of the AEWP site, and would construct a wind energy project with up to 78 WTGs on a 2,746-acre site. An NOI for this project was published in early 2011. It is possible that construction could occur during the same timeframe as the AEWP and, due to the proximity of this project to the AEWP, it is assumed that common access roads would be used for both projects.
- Alta Infill Wind Project (13) is several miles to the south of the AEWP and would construct up to 250 WTGs on a 9,780-acre site. A Supplemental EIR for this project was published in August of 2011 and the project was approved in October of 2011. It is possible that construction could occur during the same timeframe as construction of the AEWP, and that common access roads could be used for both projects.

- The Aeromen LLC (30) is several miles south-southeast of the AEWP, and includes four proposed solar projects on a 237-acre site. An application for this project was prepared in March of 2011. It is not known whether construction could occur in the same timeframe as the AEWP, or whether common access roads would be used.
- North Star Properties / Mark Judson (44) has submitted an application for a 50-acre residential and commercial development several miles south of the AEWP site. It is not known when construction of this project would occur.
- Greg Lansing / Oliver Cagle (45) has submitted an application to revise Mojave Specific Map Plan Designations to allow for increased residential development on a 510-acre site several miles southeast of the AEWP. It is not known when construction of this project would occur.
- Julio Segura (46) has submitted an application for the construction of two duplexes roughly five miles southeast of the AEWP. It is not known when construction of this project would occur.

The reasonably foreseeable projects listed above could potentially result in similar impacts to soil resources as the AEWP, if construction occurs at the same time and with use of the same access roads as the AEWP.

4.14.10.4 Construction

No unavoidable adverse impacts to soil resources related to construction of the AEWP or an alternative would occur after implementation of BMPs and mitigation measures described in Section 4.14.11. The geographic extent of cumulative analysis for soils is limited to the AEWP site and access roads in the vicinity. The summary of projects provided above in Section 4.14.10.3 indicates that several other renewable energy projects within a six-mile radius of the AEWP site could potentially be constructed within the same timeframe as the AEWP. If these projects are constructed at the same time as the AEWP and utilize the same access roads as the AEWP, it is possible that similar impacts to soil resources could combine to result in cumulative impacts, particularly as related to the potential for erosion and loss of topsoil to occur along unpaved access roads. However, BMPs and mitigation measures to minimize or avoid potential erosion impacts are included in the AEWP and alternatives, and construction activities would not result in a substantial contribution to cumulative impacts to soil resources.

As previously described, due to the location of the AEWP site within a seismically active region, structures on and adjacent to the AEWP site may be subject to severe ground shaking and would be designed appropriately to avoid or minimize structural damage. . With implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design), the Project proponent would be required to design and site project facilities appropriately, with consideration to area fault traces, and to construct facilities in conformance with relevant building codes, which would minimize placement of structures in active fault zones. While the adjacent Alta Infill II Project would introduce WTGs immediately adjacent to the AEWP site, potential impacts would be site-specific and would be reduced by the implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design). Therefore, impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects, and would not contribute to cumulative impacts.

The site is considered to have low potential for liquefaction; and as such the potential for lateral spreading is also considered low. Structure failure at the AEWP site is not likely. While the adjacent Alta Infill II Project would introduce WTGs immediately adjacent to the site, potential impacts would be site specific and would be reduced by the implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design). Therefore, impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects, and would not contribute to cumulative impacts.

4.14.10.5 Operation and Maintenance

Operation and maintenance of the AEWP or an alternative would not result in significant adverse impacts to soil resources, and would not contribute to cumulative impacts related to soils. As discussed under Section 4.11.10.4 (Construction), potential geological impacts would be site-specific and would be reduced through the implementation of Mitigation Measures 4.14-1 (Geotechnical Study) and 4.14-2 (Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design) during construction of the AEWP. Therefore, AEWP impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects, and the AEWP would not contribute to cumulative impacts.

4.14.10.6 Decommissioning

As described in Sections 4.14.3 through 4.14.9, decommissioning of the AEWP or an alternative would involve soil-disturbing activities to remove and dispose of AEWP infrastructure. The geographic extent of cumulative analysis for soils is limited to the AEWP site itself and to access roads in the immediate vicinity. If decommissioning of the projects summarized above in Section 4.14.10.3 were to occur at the same time as decommissioning of the AEWP, and such activities included use of the same access roads, there is potential that similar impacts to soil resources could combine to result in cumulative impacts, particularly as related to the potential for erosion and loss of topsoil to occur. However, as with construction of the AEWP, BMPs and mitigation measures to minimize or avoid potential erosion impacts are included in the AEWP and alternatives, and decommissioning activities would not result in a substantial contribution to cumulative impacts to soil resources.

4.14.10.7 CEQA Significance and Impact Determinations, Cumulative

Construction

- **SO-1 (Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.; ii. Strong seismic ground shaking; iii. Seismic-related ground failure, including liquefaction; or, iv. Landslides).** The AEWP would not result in significant adverse impacts associated with the exposure of people or structures to potential substantial adverse seismic effect, and would therefore not have potential to contribute to the cumulative scenario regarding seismic effects. No cumulative impact would occur.

- **SO-2 (Result in substantial soil erosion or the loss of topsoil).** If construction of the AEWP or an alternative were to occur at the same time as construction of projects listed in Section 4.14.10.3, and construction of at least one other project included use of the same access roads as the AEWP, potential impacts could occur due to soil erosion and loss of topsoil. However, this impact of the AEWP would be less than significant, and construction of the AEWP or an alternative would include BMPs and mitigation measures to minimize or avoid potential erosion impacts. Therefore, although a cumulative impact could occur, any cumulative impact associated with erosion and loss of topsoil would be temporary, site-specific, and less than significant.
- **SO-3 (Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse).** The proposed AEWP would not result in significant adverse impacts associated with unstable or potentially unstable geologic units, and would not contribute to the cumulative scenario for this impact. No cumulative effect would occur.
- **SO-4 (Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property).** The proposed AEWP would not result in significant adverse impacts associated with expansive soil, and would not contribute to the cumulative scenario for this impact. No cumulative effect would occur.
- **SO-5 (Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water).** The proposed AEWP would not result in impacts associated with wastewater disposal, and would not contribute to the cumulative scenario for this impact. No cumulative effect would occur.

Operation and Maintenance

Operation and maintenance of the AEWP or an alternative would not result in impacts to geology and soil resources; no cumulative impact would occur.

Decommissioning

It is anticipated that cumulative impacts to geology and soils associated with decommissioning of the proposed AEWP would be similar to cumulative impacts associated with construction of the AEWP. As with cumulative construction impacts, if decommissioning of the AEWP or an alternative were to occur at the same time as decommissioning of projects listed in Section 4.14.10.3, and decommissioning of at least one other project included use of the same access roads as the AEWP, potential impacts could occur due to soil erosion and loss of topsoil. Decommissioning of the AEWP or an alternative would include implementation of a decommissioning plan, which would minimize or avoid potential impacts to soils. Although an impact could occur, any cumulative impact associated with erosion and loss of topsoil would be temporary, site-specific, and less than significant (Significance Criterion SO-2).

4.14.11 Mitigation Measures

The AEWP and alternatives would include implementation of BMPs from BLM's Programmatic EIS for Wind Energy Development on BLM-Administered Lands in the Western United States (BLM, 2005). The BLM BMPs are presented below.

In addition to the BLM BMPs listed below, AEWP-specific mitigation measures have been developed to reduce and/or avoid potential soil resources impacts associated with construction of the AEWP or an alternative. These AEWP-specific mitigation measures are presented below.

MM 4.14-1 **Geotechnical Study**. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall conduct a full *Geotechnical Study* to evaluate soil conditions and geologic hazards on the project site. The Study shall be prepared and signed by a California-registered professional engineer and shall be submitted for review to: (1) the BLM for federal lands; and, (2) the Kern County Engineering, Surveying, and Permit Services Department for County lands. The Study shall identify the following:

1. Location of fault traces and potential for surface rupture;
2. Maximum considered earthquake and associated ground acceleration;
3. Potential for seismically induced ground shaking, liquefaction, landslides, differential settlement, and mudflows;
4. Stability of existing cut-and-fill slopes;
5. Collapsible or expansive soils;
6. Foundation material type;
7. Potential for wind erosion, water erosion, sedimentation, and flooding;
8. Location and description of unprotected drainages that could be impacted by the Project; and,
9. Recommendations for placement and design of facilities, foundations, and remediation of unstable ground.
10. Identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of Project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems.

MM 4.14-2 **Conduct Studies to Assess Soil Characteristics and Aid in Appropriate Foundation Design.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall demonstrate compliance with the following:

1. The final siting of project facilities based on the results of the geotechnical study and implement measures to minimize geologic hazards. The Project proponent shall not locate project facilities on or immediately adjacent to a fault trace. The BLM and Kern County Engineering, Surveying, and Permit Services Department will evaluate any final facility siting design developed prior to the issuance of any grading or

building permits or Notices to Proceed to verify that geological constraints have been avoided.

2. The project proponents shall design cut-and-fill slopes for an adequate factor of safety, considering material type and compaction, identified during the site-specific geotechnical study. The slope of cut surfaces shall be no steeper than 2:1 (horizontal to vertical), unless the project proponents furnish a soils engineering or an engineering geology report, or both, stating that the site has been investigated and given an opinion that a cut at a steeper slope will be stable, if acceptable stabilization methods are employed and it will not create a hazard to public or private property. Other potential considerations would include structures set back from the slopes, and subsequent design recommendations.
3. The project proponents shall avoid locating roads and structures near landslide and mudflow areas. Where avoidance of landslide areas is not feasible, the project proponents shall construct relatively flat cut-and-fill slopes not to exceed 2:1 (horizontal to vertical), or 26 percent, or flatter.
4. The project proponents will not locate turbines, transmission lines, and/or associated structures across faults, lineaments, or unstable areas.
5. That the utility lines crossing potentially active faults ~~have been~~ are designed to withstand vertical and horizontal displacement. If determined necessary by the findings of the site-specific geotechnical study, the project proponent shall remove and replace shrink-swell soils with a non-expansive or non-collapsible soil material.

BLM Best Management Practices

- The size of disturbed land should be minimized as much as possible. Existing roads and borrow pits should be used as much as possible.
- Topsoil removed during construction should be salvaged and reapplied during reclamation. Disturbed soils should be reclaimed as quickly as possible or protective covers should be applied.
- Erosion controls that comply with county, state, and federal standards should be applied. Practices such as jute netting, silt fences, and check dams should be applied near disturbed areas.
- On-site surface runoff control features should be designed to minimize the potential for increased localized soil erosion. Drainage ditches should be constructed where necessary but held to a minimum. Potential soil erosion should be controlled at culvert outlets with appropriate structures. Catch basins, drainage ditches, and culverts should be cleaned and maintained regularly.
- Operators should identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and dip angles of geologic strata). Operators also should avoid creating excessive slopes during excavation and blasting operations. Special construction techniques should be used where applicable in areas of steep slopes, erodible soil, and stream channel/wash crossings.
- Borrow material should be obtained only from authorized and permitted sites.

- Access roads should be located to follow natural contours of the topography and minimize side hill cuts.
- Foundations and trenches should be backfilled with originally excavated materials as much as possible. Excavation material should be disposed of only in approved areas to control soil erosion and to minimize leaching of hazardous constituents. If suitable, excess excavation materials may be stockpiled for use in reclamation activities.
- Existing drainage systems should not be altered, especially in sensitive areas such as erodible soils or steep slopes. When constructing stream or wash crossings, culverts or water conveyances for temporary and permanent roads should be designed to accommodate the runoff of a 10-year storm. Potential soil erosion should be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts should be cleaned and maintained regularly.

4.14.12 Residual Impacts After Mitigation

Following implementation of BMPs and mitigation measures provided in Section 4.14.10, all adverse impacts on soil resources resulting from construction, operation and maintenance, and decommissioning of the AEWP or an alternative would be avoided or substantially reduced. There would be no adverse unavoidable impacts on soil resources.

4.15 Special Designations and Agriculture

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) within lands with special designations or agricultural lands. The applicable environmental and regulatory settings are discussed in Chapter 3.15. Mitigation measures that would reduce impacts, where applicable, are also discussed.

4.15.1 Methodology for Analysis

The analysis of the effects of the AEWP must comply with NEPA requirements given the BLM land jurisdiction related to the AEWP. This analysis focuses on whether the AEWP would conflict with the management goals of any applicable special designations, or result in environmental impacts associated with the AEWP or alternatives. Impacts may occur during construction from noise, fugitive dust, and lighting that could affect users in designated Areas of Critical Environmental Concern (ACEC), recreation areas and/or Wilderness Areas, including visual impacts on users in designated Wilderness Areas. Visual impacts are discussed in further detail in Section 4.18.

This section of the Proposed PA, Final EIS/EIR also addresses potential impacts of the AEWP on agricultural and forest resources. The analysis in this section was conducted through review of (1) the most current California DOC Division of Land Resource Protection's Important Farmland Map and farmland conversion tables; (2) NRCS soils information; and (3) Kern County's Williamson Act Map.

This Proposed PA, Final EIS/EIR does not consider potential economic impacts of the AEWP on Agricultural and Forestry Resources because there are no economic impacts that would result in physical impacts. In any event, economic impacts are beyond the scope of environmental analysis under California Environmental Quality Act (CEQA) pursuant to Section 15131(a) of the CEQA Guidelines

4.15.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would normally be considered to have a significant impact if it would:

SD-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

SD-2 Conflict with existing zoning for agricultural use or a Williamson Act Contract.

SD-3 Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

SD-4 Result in the loss of forestland or conversion of forestland to non-forest use.

SD-5 Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use.

SD-6 Result in the cancellation to an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code).

4.15.3 Alternative A: Project

4.15.3.1 Direct and Indirect Impacts

As discussed in Section 3.15 (Special Designations and Agriculture), areas are designated Areas of Critical Environmental Concern (ACECs) due to the presence of significant natural, cultural and historic resources. Wilderness Areas, which are generally 5,000 acres or more in size, offer outstanding opportunities for solitude or a primitive and unconfined type of recreation; such areas may also contain ecological, geological, or other features that have scientific, scenic, or historical value. Temporary effects associated with fugitive dust, noise, and visual disturbance would not require the special designated areas within proximity to the AEWP to remove special designated status (i.e., ACEC, Wilderness Area, Historic Trail).

Construction

The AEWP would have no direct effects on special designations during construction, since the site is not subject to any such designations, and no new designations or amendments to existing designations are proposed. However, due to the proximity of the AEWP to the special designations presented in Section 3.15, temporary effects associated with fugitive dust, users of the adjacent ACECs, the national historic trail, and recreation areas would experience noise, and visual disturbance. Fugitive dust during construction activities could impact the air quality experienced by users of these specially designated areas, as well as the introduction of construction noise caused by equipment required for construction, motor vehicle use, voices, music, or other worker-related sounds that could disturb the peaceful and serene environment enjoyed by users. Due to the prevailing wind direction towards the east and northeast, users of the Middle Knob ACEC would experience temporary dust pollutants. Users in the nearby Middle Knob and Horse Canyon ACECs would most likely experience noise effects. The character and quality of view experienced by users would be disturbed by the introduction of several industrial structures including construction equipment, wind turbines, and meteorological towers. Users of special designated areas at far away distances would experience visual effects, but users within a10-mile vicinity would most likely experience the greatest visual impact.

The transmission line would be constructed within existing roadway right-of-ways (ROW) that do not extend across lands under special designations (CH2MHILL, 2011f).

Operation and Maintenance

The AEWP would be within the vicinity of the special designations, as mentioned above under "Construction." There would be permanent visual impacts from the wind turbine generators (WTGs), meteorological towers, substation, operation and maintenance facility, and transmission line. Users of special designated areas at far away distances would experience visual effects, but users within a 10-mile vicinity would most likely experience the greatest visual impact. While operation and maintenance would not cause any direct impact on the special designations, visitors utilizing the ACEC and recreation areas would be impacted. For example, nighttime lighting from the WTGs would introduce a new source of light to the area and disturb the character and quality of view experienced by recreation users.

Decommissioning

The AEWP would be within the vicinity of several special designations, as mentioned above under "Construction". Decommissioning activities would cause temporary disturbance to users of the ACEC and recreation areas, similar to those described under "Construction" above. Fugitive dust during decommissioning activities could impact the air quality experienced by users as well as the introduction of noise caused by equipment required for decommissioning, motor vehicle use, voices, music, or other worker-related sounds that could disturb the peaceful and serene environment enjoyed by users. Due to the prevailing wind direction towards the east and northeast, users of the Middle Knob ACEC would experience temporary dust pollutants. Users in the nearby Middle Knob and Horse Canyon ACECs would most likely experience noise effects. The dismantling of several industrial structures including wind turbines, meteorological towers, a substation, and an operation and maintenance facility would disturb the character and quality of view experienced by users. Users of special designated areas at far away distances would experience visual effects, but users within a10-mile vicinity would most likely experience the greatest visual impact.

After the AEWP has been decommissioned, the permanent visual impacts, described for "Operation and Maintenance" above, would be removed. Although revegetation in this desert region is difficult and generally of limited success, the site would return to a more natural undeveloped state.

4.15.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.9.2.

Construction

- **SD-1 (Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use).** Based on the most current data available from the California Division of Land Resource Protection Farmland Mapping and Monitoring Program, there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) within the AEWP site (DOC, 2008). The AEWP site is composed almost entirely of lands classified as "Grazing Land" and "Nonagricultural and Natural Vegetation." Therefore, because no Important Farmland exists within the AEWP boundary, construction of the AEWP would not convert Important Farmland to non-agricultural uses. In addition, the land immediately adjacent and the surrounding the boundary AEWP site is also classified as "Grazing Land" and "Nonagricultural and Natural Vegetation," with dispersed areas of "Rural Residential Land" and "Vacant or Disturbed Land." Therefore, construction would not convert Important Farmland to non-agricultural uses and impacts would be less than significant. In order to ensure that the existing grazing lands are not impacted by the AEWP and to ensure that the uses remain compatible, Mitigation Measures 4.15-1 has been included to require that the applicant work with area grazing permittees to establish Best Management Practices; therefore, impacts will be less than significant.

- **SD-2 (Conflict with existing zoning for agricultural use or a Williamson Act Contract).** No parcels within or immediately adjacent to the AEWP site are subject to Williamson Act contracts; therefore, there would be no impact to Williamson Act lands.

  Current zoning consists of 143.1 acres within the A-1 (Limited Agriculture) zone classification and 429.9 acres are within the E 20 (Estate 20 acres) zone classification. The proposed zone change would change the existing base zone classifications of A-1 and E 20 to A (Exclusive Agriculture), and the land could be utilized for other types of compatible agricultural uses. At the end of the AEWP lifespan (currently estimated to be 30 years), project infrastructure would be removed or abandoned in place and the land disturbed by the AEWP could be restored to conditions suitable agricultural uses. The WE Combining District, however, would be permanent unless rezoned. Additionally, there is no Williamson Act contracted land within the AEWP boundary. Therefore, impacts would be less than significant.

- **SD-3** (**Conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production)**. As described in Section 3.17, Vegetation Resources, the majority of the AEWP site is comprised of desert scrub communities such as creosote bush scrub and brittlebush scrub, as well as California juniper woodland and Joshua tree woodland, but the woodlands on the site are not used for timber production. While timber production is allowed "by right" on lands zoned A (Exclusive Agriculture), construction of the AEWP would not cause the rezoning of lands zoned for forest land or timberland, nor would it conflict with timber production. Therefore, impacts to forest land or timberland would be less than significant.

- **SD-4 (Result in the loss of forestland or conversion of forestland to non-forest use).** The AEWP site is predominately desert scrub along with a variety of woodlands. However, no forest land is present within the AEWP boundary, as defined and designated by the California Department of Forestry and Fire Protection or the United States Department of Agriculture, Forest Service. Therefore, no forest land would be removed during construction, and impacts associated with the loss of forest land or conversion of forest land to non-forest uses would be less than significant.

- **SD-5 (Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use).** Other changes in the existing environment as a result of AEWP construction may include interferences or disruptions surrounding agricultural activities or grazing on private lands. In order to minimize potential disruptions, 4.15-1 requires that the Project Proponent coordinate with grazing permittees to develop Best Management Practices. With implementation of this measure, impacts would be less than significant.

- **SD-6 Result in the cancellation to an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres).** The AEWP site would not require the cancellation of any open space, California Land Conservation Act, or Farmland Security Zone contracts. Therefore, no impact would occur under this criterion.

Operation and Maintenance

- **SD-1 (Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-2 (Conflict with existing zoning for agricultural use or a Williamson Act Contract).** No parcels within or immediately adjacent to the AEWP site are subject to Williamson Act contracts; therefore, there would be no impact to Williamson Act lands. Conflicts with existing agricultural zoning associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-3** (**Conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production)**. Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-4 (Result in the loss of forestland or conversion of forestland to non-forest use).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-5 (Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-6 Result in the cancellation to an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."

Decommissioning

- **SD-1 (Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-2 (Conflict with existing zoning for agricultural use or a Williamson Act Contract).** No parcels within or immediately adjacent to the AEWP site are subject to Williamson Act contracts; therefore, there would be no impact to Williamson Act lands. Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-3** (**Conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production)**. Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-4 (Result in the loss of forestland or conversion of forestland to non-forest use).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."

- **SD-5 (Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use).** Impacts associated with operation and maintenance would be the same as discussed under "Construction."
- **SD-6 Result in the cancellation to an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres).** The AEWP site would not require the cancellation of any open space, California Land Conservation Act, or Farmland Security Zone contracts. Therefore, no impact would occur under this criterion.

4.15.4 Alternative B: Revised Site Layout

4.15.4.1 Direct and Indirect Impacts

In comparison to Alternative A, Alternative B consists of a revised site layout, relocating a number of WTG locations and resulting in the rerouting of access roads. All other features associated with Alternative B would remain unchanged compared to that discussed above for the AEWP.

Construction

During construction of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

During operation and maintenance of this alternative, potential to impacts on land under special designations or agricultural lands would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Decommissioning" for Alternative A.

4.15.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The CEQA significance determinations of impacts for Alternative B would be identical to Alternative A.

4.15.5 Alternative C: Reduced Project North

4.15.5.1 Direct and Indirect Impacts

Under Alternative C, all WTGs and ancillary facilities would remain identical to that of Alternative A. However, Alternative C would eliminate the central parcel within the AEWP boundary, which is north of State Route 58. The purpose of this alternative is to marginally reduce potential biological resources impacts as a result of the reduced level of construction and permanent habitat loss, the reduced number of WTGs on the landscape, and the avoidance of some Joshua tree woodland habitat adjacent to the Pacific Crest Trail.

Construction

During construction of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Construction" for Alternative A. However, with the reduction of the size of the AEWP site, a smaller number of WTGs would be constructed; therefore, less recreation lands would be affected. In particular, Alternative C site would not include the Middle Knob Motorized Access Zone (MAZ) routes. Refer to Section 4.12 (Recreation) for a discussion of the impacts to the Middle Knob MAZ. Nonetheless, temporary effects would still be experienced.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Decommissioning" for Alternative A.

4.15.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

The CEQA significance determinations of impacts for Alternative C would be identical to Alternative A.

4.15.6 Alternative D: Reduced Project Southwest

4.15.6.1 Direct and Indirect Impacts

Alternative D would eliminate the southwestern most parcel within the AEWP boundary to reduce the potential to impact existing and allowed livestock grazing on this parcel of BLM land. Figure 2-12 displays the Alternative D site layout and existing BLM and Kern County land use designations. Currently, livestock grazing occurs within this southwestern parcel. The removal of this parcel and reduction in AEWP size would avoid conflicts with grazing livestock during both construction and operational activities, and would eliminate 19 WTGs through loss of land or requirements imposed by setbacks (CH2MHILL, 2011p).

Construction

During construction of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Construction" for Alternative A. However, with the reduction of the size of the AEWP site, a smaller number of WTGs would be constructed; therefore, less grazing lands would be affected. Refer to Section 4.7 (Livestock Grazing) for a discussion of the impacts to grazing lands.

Operation and Maintenance

During operation and maintenance of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

During decommissioning of this alternative, potential impacts to land under special designations or agricultural lands would be the same as described under "Decommissioning" for Alternative A.

4.15.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

The CEQA significance determinations of impacts for Alternative D would be identical to Alternative A.

4.15.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

4.15.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would not amend the California Desert Conservation Area (CDCA) Plan. As a result, no wind energy project would be constructed, and the BLM and County would continue to manage the site consistent with the existing land use designation in the CDCA Plan, as amended, and County land use designations.

Because there would be no amendment to the CDCA Plan and the proposed zone changes would not be approved, no wind project would be approved for the site under this alternative, no new structures or facilities would be constructed or operated on the site and no new ground disturbance would occur. As a result, none of the impacts on special designation areas or agricultural lands from construction or operation of the AEWP would occur. In particular, no direct or indirect impacts on ACECs, recreation areas, agricultural lands, or other special designations would occur that would affect the resources these special designation areas are meant to protect. However, the land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan, including another renewable energy project. If the AEWP is not approved, renewable projects would likely be developed on other sites in Kern County, in other areas of California, or in adjacent states within the Desert Southwest as developers strive to provide renewable power that complies with utility requirements and State/federal mandates. Several dozen wind and solar development applications for use of BLM land have been submitted for approximately one million acres of the CDCA. Additional BLM land in Nevada and Arizona also has applications for wind and solar projects. Potential adverse impacts to special designation areas or agricultural lands on non-BLM-administered lands under this No Project Alternative could increase in the event developers focus their wind energy development efforts on state-owned, Tribal, and private lands. While wind energy development on non-federal lands is subject to a wide array of environmental reviews and approvals by virtue of State and local permitting processes, they may

not be subject to NEPA requirements if federal funding or permitting is not required for the project.

4.15.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

There would be no impacts to agricultural or forest lands under Alternative E.

4.15.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.15.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would amend the CDCA Plan to make the site unsuitable for future wind energy development. As a result, no wind energy project would be constructed on the site and the BLM and would continue to manage the site consistent with the existing land use designation in the CDCA Plan, as amended, and County land use designations.

Because the CDCA Plan would be amended to make the area unsuitable for future wind energy development, it is expected that the site would remain in its existing condition unless another use is designated in this amendment. As a result, the special designation areas and agricultural lands that are within the vicinity of the site are not expected to change noticeably from existing conditions and, as such, this No Action / No Project Alternative would have no adverse impact on special designation areas or agricultural lands within and adjacent to the site in the long term. However, without the AEWP, other renewable energy projects may be constructed to meet State and federal mandates, and those projects would have similar impacts on other locations and could affect special designation areas or agricultural lands.

4.15.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

There would be no impacts to agricultural or forest lands under Alternative F.

4.15.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.15.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and County would not approve the AEWP and would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site.

Because the CDCA Plan would be amended, it is possible that the site would be developed with the same or a different wind technology. As a result, it is likely that impacts on special designation areas or agricultural lands would result from the construction and operation of the wind technology and resulting ground disturbance and would likely be similar to the impacts on

special designation areas or agricultural lands from the AEWP, including indirect impacts on ACECs and recreation areas. Different wind technologies require different amounts of grading; however, it is expected that all wind technologies would require grading and maintenance. As such, this No Project Alternative could result in impacts on special designation areas and agricultural lands similar to the impacts under the AEWP.

4.15.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

With construction and operation of another wind energy development, the CEQA significance determinations for impacts to agricultural resources under Alternative G would be the same as the AEWP.

4.15.10 Cumulative Impacts

4.15.10.1 Geographic Extent/Context

Several special designation areas are in the general vicinity of the AEWP area. The areas in the immediate vicinity include the following: Middle Knob ACEC, Horse Canyon ACEC, and the Pacific Crest Trail.

Due to the presence of several special designation areas within the vicinity of the site and the AEWP's potential contribution to cumulative impacts on these areas, the geographic extent of analysis is a 10-mile radius from the AEWP site. Locations most likely to be affected within special designation areas would be included within this 10-mile radius. Beyond this 10-mile radius, potential impacts associated with fugitive dust, noise, and visual disturbance would be greatly reduced. Potential cumulative impacts could occur for the entire duration of the AEWP, from the initiation of construction to the conclusion of facility decommissioning.

4.15.10.2 Existing Cumulative Conditions

The AEWP site and surrounding special designation areas or agricultural lands consist of undeveloped land, open space land, scattered rural residences, and the unincorporated Community of Mojave. Past and ongoing development throughout these areas has resulted in alterations to the natural landscape, as well as impacts associated with air quality, noise, and visual resources on special designation areas or agricultural lands. As discussed in Sections 4.2 (Air Resources) and 4.9 (Noise), temporary impacts from Air Quality and Noise have been and continue to be reduced through BMPs and AEWP specific mitigation measures. However, as discussed in Section 4.18 (Visual Resources), permanent impacts to visual resources from special designated areas remain, particularly due to the prevalence of wind energy development in the areas. The following are the existing wind energy systems, as presented in Table 4.1-1 (Section 4.1) of this Proposed PA, Final EIS/EIR:

- Manzana Wind Energy Project
- Alta–Oak Creek-Mojave Wind Project
- Coram Brodie Wind Project
- Pine Tree Wind Development Project
- Sky River Wind Energy Facility

4.15.10.3 Reasonably Foreseeable Projects

A wide variety of existing development projects could contribute to the cumulative conditions for special designations or agricultural lands in regards to effects from air quality, noise and visual resources in the cumulative analysis area. Table 4.1-1 lists cumulative projects in the vicinity of the AEWP site and surrounding area. Consideration of the following projects identified in Table 4.1-1 and shown on Figure 4.1-1 was used to develop this analysis of cumulative effects for special designations:

- PdV Infill Project
- Tehachapi Renewable Transmission Project
- Pacific Wind Energy Project
- Pacific Wind Infill Project
- Windstar Energy Project
- Alta Infill II Wind Project
- Windstar Energy Project
- Tylerhorse Wind Project
- Catalina Renewable Energy Project
- Lower West Wind Energy Project
- Morgan Hills Wind Energy Project
- North Sky River and Jawbone Wind Energy Projects
- Clearvista Wind Project
- Avalon Wind Farm
- Aero Energy Wind Project
- Distributed Solar Projects (10 individual solar projects)
- The Aeromen, LLC (four solar projects)
- High Desert Solar Project

These projects were selected based on where air quality, noise and visual resources impacts to special designated areas or agricultural lands would be experienced. Several types of development projects could contribute to the cumulative impact of the AEWP and alternatives, including housing development projects, commercial and industrial development, and renewable energy projects. These types of reasonably foreseeable projects could combine with potential impacts of the AEWP or an alternative to affect special designations or agricultural lands within the geographic extent of this cumulative analysis.

4.15.10.4 Construction, Operation and Maintenance, and Decommissioning

Numerous energy-related development projects, including the AEWP, would adversely affect the viewscape by adding temporary air quality emissions during construction; temporary and permanent structures, fences, and other features that could interrupt landscape views; increased noise caused by equipment required for construction and decommissioning, motor vehicle use, voices, music, or other worker-related sounds. Any of these activities individually or in combination could cause some users to seek out other areas of the desert for their wilderness or recreation activities and experiences. These locations would most likely be in another county where renewable energy development is not prevalent or likely to occur.

Over 40 renewable energy projects are identified within the cumulative project list (Section 4, Table 4.1-1) would be developed and operate on a similar magnitude of the AEWP. These projects are within the general vicinity of the AEWP and would present similar effects to the special designation areas or agricultural lands. The Middle Knob and Horse Canyon ACECs border the AEWP site to the north and northwest and may experience effects of a greater magnitude. All other special designation areas are close to the AEWP and these cumulative projects, and none of these special designation areas would specifically be affected greater than another, with the exception of the Jawbone/Butterbredt ACEC, since several sections of the ACEC are in the southeastern edge of the North Sky River and Jawbone Wind Energy Project boundary. However, according to the EIR for that project, measures were proposed that would mitigate impacts to the Jawbone/Butterbredt ACEC.

These potential cumulative impacts on the specially designated ACEC and recreation areas could, in turn, affect visitor attraction to other specially designated areas within the vicinity of the AEWP area, since the many projects in the cumulative scenario, in combination, would add large- and small-scale industrial, utility-related, and other uses in the region.

Unavoidable impacts to designated ACECs and recreation areas would result since construction and operation of the AEWP would alter the adjacent scenery to a more industrial setting, as viewed from the special designation areas. Thus, the effects on special designation areas would continue until the facilities are dismantled and the vegetation and landforms of the site are reclaimed. The existing landscape setting would be restored during the decommissioning phase.

These potential impacts are discussed in the Air Quality, Noise, and Visual Resources sections, and BMPs and AEWP specific mitigation measures for construction, operations and maintenance activities have been proposed to reduce the impacts of the AEWP. Furthermore, cumulative effects associated with fugitive dust, noise, and visual disturbance would not require any changes to the designations or status of specially designated areas in proximity to the AEWP. Thus, the AEWP would not contribute substantially to cumulative impacts on special designations.

4.15.10.5 CEQA Significance and Impact Determinations, Cumulative

- ***Construction, Operation and Maintenance, Decomissioning*SD-1 (Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use).** The AEWP site is composed almost entirely of lands classified as "Grazing Land" and "Nonagricultural and Natural Vegetation." Therefore, because no Important Farmland exists within the AEWP boundary, implementation of the AEWP would not convert Important Farmland to non-agricultural uses, and therefore, would not contribute to the conversion of Important Farmland. Cumulative impacts would be less than significant.
- **SD-2 (Conflict with existing zoning for agricultural use or a Williamson Act Contract).** No parcels within or immediately adjacent to the AEWP site are subject to Williamson Act contracts; therefore, there would be no cumulative impact to Williamson Act lands.

  Current zoning consists of 153.7 acres within the A-1 (Limited Agriculture) zone classification and 396.8 acres are within the E 20 (Estate 20 acres) zone classification. The proposed zone change associated with the AEWP would change the existing base zone classifications of A-1 and E 20 to A (Exclusive Agriculture), and the land could be utilized for other types of compatible agricultural uses. Therefore, the AEWP would not contribute to cumulative impacts.
- **SD-3** (**Conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production)**. The AEWP would not cause the rezoning of lands zoned for forest land or timberland, nor would it conflict with timber production. Therefore, cumulative impacts to forest land or timberland would be less than significant.
- **SD-4 (Result in the loss of forestland or conversion of forestland to non-forest use).** The AEWP site is predominately desert scrub along with a variety of woodlands. However, no forest land would be removed during construction. Therefore, cumulative impacts associated with the loss of forest land or conversion of forest land to non-forest uses would be less than significant.

- **SD-5 (Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use).** Other changes in the existing environment as a result of AEWP construction may include interferences or disruptions surrounding agricultural activities or grazing on private lands. In order to minimize potential disruptions, implementation of 4.15-1 is required to for the AEWP. With implementation of this measure, the AEWP would not contribute to cumulative impacts. In addition, it is not anticipated that the AEWP would result in other changes which would result in the conversion of forest land to non-forest uses. Cumulative impacts would be less than significant.
- **SD-6 Result in the cancellation to an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres).** The AEWP site would not require the cancellation of any open space, California Land Conservation Act, or Farmland Security Zone contracts. Therefore, no cumulative impacts would occur under this criterion.

4.15.11 Mitigation Measures

MM 4.15-1 **Grazing Plan for Private Lands.** Prior to issuance of grading permits, the Project Proponent shall work together with the area grazing permittees to develop Best Management Practices for grazing activities which occur on private lands, and submit a guidance document to Kern County Planning and Community Development Department for review.

4.15.12 Residual Impacts After Mitigation

There would be no unavoidable adverse impacts related to special designations and agricultural lands.

4.16 Transportation and Public Access

This section of the Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) discusses the transportation and public access impacts that would occur with implementation of the Alta East Wind Project (AEWP) and alternatives. Effects may occur from physical changes to roads, construction activities, introduction of construction- or operations-related traffic on local roads, or changes in traffic volumes created by either direct or indirect workforce changes in the area.

4.16.1 Methodology for Analysis

Information contained within this section was provided primarily by the *Traffic Analysis for the Alta East Wind Project*, April 21, 2011, prepared by CH2MHILL, included as Appendix H of this Final EIS/EIR and incorporated by reference herein.

4.16.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on transportation and public access if it would:

TR-1 Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

TR-2 Conflict with an applicable congestion management program, including, but not limited to exceeding, a Level of Service (LOS) standard or other standards established by the county congestion management agency or adopted County threshold for designated roads or highways.

i. Metropolitan Bakersfield General Plan LOS "C"

ii. Kern County General Plan LOS "D".

TR-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

TR-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

TR-5 Result in inadequate emergency access

TR-6 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

4.16.3 Alternative A: Project

4.16.3.1 Direct and Indirect Impacts

Construction

Construction of Alternative A will take approximately 9 to 12 months. For purposes of this analysis, it is anticipated that construction operations will take place six days a week between the hours of 5:30 AM and 9:00 PM. In addition to vehicle trips generated by construction workers traveling to the site, AEWP construction would add vehicle trips to the area's roadway system due to the delivery of construction equipment and material deliveries.

During construction, the onsite construction workforce is expected to range from about 150 to 250 workers with a construction traffic peak of approximately 262 trips per day (this includes daily trips gene-

rated by construction workers, management, and staff). The majority of construction workers are expected to come from within Kern County and the neighboring cities of Bakersfield, Lancaster, and Palmdale. The anticipated primary construction route would be via SR 58, with construction workforce traffic primarily originating from the west (Bakersfield). During construction, workers and vendors will park in the onsite laydown area (see Figure 2-9 in Appendix A). 114 daily truck trips will be generated during construction by water, cement, and delivery trucks, as well as by turbine delivery (see Table 4.16-1). Material delivery trucks are expected to arrive and depart at regular intervals during the 10-hour workday.

Table 4.16-1. Estimated Truck Trips Generated by Material Delivery During Construction

Equipment Delivery[1]	Daily Truck Trips for Construction[2]	Assumptions[3]
Water trucks	50	5 trucks needed, 5 round-trips per day each
Delivery trucks	24	12 trucks needed, 1 round-trip per day each
Turbine delivery	40	10 trucks per turbine, 10 turbines per week at 20 round-trip deliveries per day.
Total daily truck trips	**114**	

Notes:
[1] Assumes multiple trips from offsite to the site during construction.
[2] Assumes 9 to 12 months of construction and 24 days per month of construction activity.
[3] Each round-trip is considered as two truck trips.
Source: CH2MHILL, 2011c (Appendix H).

During AEWP construction, the onsite construction workforce is expected to range from about 150 to 250 workers with a peak of approximately 262 trips per day (this includes daily trips generated by construction workers, management, and staff). The majority of construction workers are expected to come from within Kern County and the neighboring cities of Lancaster and Palmdale. The anticipated primary construction route would be via SR-58, with construction workforce traffic primarily originating from the west (Bakersfield). Construction and operational access to the AEWP site will be provided through one primary access point, and one secondary access point. The primary access point will be from the west via the existing Cameron Ridge Road which extends through the operating Cameron Ridge project, owned by an affiliate of project proponent. Minor improvements would be made on approximately a half mile of this road to allow for safe passage of construction and AEWP vehicles. AEWP-related traffic accessing the site from the west would travel along SR-58, then south on SR-14, and then west on Oak Creek Road and then north on Cameron Ridge Road, in order to access the site.

The secondary access point will be from the east side of the AEWP via a bridge across the Los Angeles Aqueduct. AEWP-related traffic accessing the site from the east would travel along SR-58, then south on SR-14, then west on Oak Creek Road, and then north along a private access road, crossing a bridge across the LA Aqueduct. A permanent access will traverse from the bridge, through the Alta Infill II project along its southern boundary to provide access to the AEWP site. The bridge and north-south access road from Oak Creek Road were evaluated as part of the adjacent Alta Infill II Wind Energy project, approved on private lands by Kern County on October 25, 2011 (SCH No. 2008121044). It is assumed that the bridge and access road will be constructed prior to development of the AEWP and no additional improvements are required; the technical analyses provided to Kern County assumed construction of the bridge during the same year as development of the AEWP, in order to provide a conservative analysis in the event that construction of the bridge and access road is delayed.

Table 4.16-2 shows the LOS changes to local area roadways with the addition of construction-related truck trips. Workforce-related traffic is not included in Table 4.16-2 as no truck trips will be generated.

Table 4.16-2. Construction Conditions Traffic Summary

Roadway[1]	Segment Between	Added Construction Truck Traffic[1]	Total With Construction Peak Hour Volume	Construction V/C Ratio	Construction LOS	Existing LOS
SR 58 EB	Fairfax Road and SR 184	139	2,674	0.50	C	B
SR 58 WB	Fairfax Road and SR 184	15	2,990	0.55	C	C
SR 58 EB	SR 184 and Edison Road	139	1,907	0.53	C	B
SR 58 WB	SR 184 and Edison Road	15	2,090	0.58	C	C
SR 58 EB	SR 202 and Mill Street	139	2,007	0.56	C	C
SR 58 WB	SR 202 and Mill Street	15	2,207	0.61	C	C
SR 58 EB	Randsburg Cut-Off Road and SR 14	139	1,173	0.33	B	A
SR 58 WB	Randsburg Cut-Off Road and SR 14	15	1,229	0.34	B	B
SR 14 NB	Silver Queen Road and SR 58	138	1,449	0.40	B	B
SR 14 SB	Silver Queen Road and SR 58	15	889	0.25	A	A
SR 14 NB	Rosamond Boulevard and Silver Queen Road	138	1,518	0.42	B	B
SR 14 SB	Rosamond Boulevard and Silver Queen Road	15	935	0.26	A	A
SR 14 NB	County Line and Rosamond Boulevard	138	2,105	0.58	C	C
SR 14 SB	County Line and Rosamond Boulevard	15	1,326	0.37	B	B

Notes:
[1] Truck trips were converted to passenger car by applying a Passenger Car Equivalent factor of 1.5. It was assumed that 10 trucks were traveling to and from the AEWP site during the peak hour.
Source: CH2MHILL, 2011c (Appendix H).

Roadway Capacity and LOS Degradation

The AEWP would result in temporary, short-term increases in local traffic as a result of construction-related workforce traffic (employee travel to and from the site), heavy equipment delivery (e.g., cranes and bulldozers), and material deliveries (e.g., turbine components, gravel and concrete). Delivery of construction materials would require a number of oversized-vehicle trips. Oversized vehicles may travel at slower speeds than existing traffic and, due to their size, may intrude into adjacent travel lanes (in all cases using road permits). These oversized-vehicle trips may temporarily decrease the existing levels of service (LOS) on area freeways, roadways, and intersections (refer to Section 3.16.1 for a description of LOS). Additionally, the total number of vehicle trips associated with all construction-related traffic (including construction workers) could temporarily increase daily traffic volumes on local roadways and intersections.

As shown in Table 4.16-2 above, the addition of daily construction trips would not exceed the capacity of area roadways or deteriorate any roadway to below an LOS C performance standard. However, stringing activities required for transmission line infrastructure across Oak Creek Road may require temporary lane closures that may result in temporary traffic delays. Implementation of Mitigation Measure 4.16-1 (Construction Traffic Control Plan) would reduce temporary construction related traffic impacts to the existing traffic load and capacity of the street system to the maximum extent feasible. Additionally, delivery of construction materials would require a number of oversized-vehicle trips. Oversized vehicles may travel at slower speeds than existing traffic and, due to their size, may intrude into adjacent travel lanes. These oversized-vehicle trips may temporarily affect operations on area freeways, roadways, and intersections. The implementation of Mitigation Measure 4.16-3 would reduce this potential impact to a less than significant level.

In a scoping comment letter on the AEWP dated August 11, 2011, Caltrans indicated the Draft EIS/EIR should evaluate AEWP traffic and prepare a Construction Traffic Control Plan. Mitigation Measure 4.16-1 (Construction Traffic Control Plan) which requires the project proponent to prepare and submit a Construction Traffic Control Plan addresses this comment.

In a scoping comment letter on the AEWP dated August 5, 2011, the Kern County Roads Department indicated the Draft EIS/EIR should ensure preparation of a Construction Traffic Control Plan. Mitigation Measure 4.16-1 (Construction Traffic Control Plan) requires the project proponent to prepare and submit a Construction Traffic Control Plan and addresses this comment.

Access Roads and Roadway Hazards

A number of existing dirt roads within the AEWP site would be graded, widened, and compacted to provide adequate construction and maintenance access to AEWP facilities. As discussed in Section 2.0, no temporary access roads are required for the AEWP. However, permanent service roads would be temporarily widened to 36 feet and engineered to support heavy cranes and delivery vehicles. Figure 2-8 shows the locations of all access roads. Following completion of construction, the temporarily widened portions of these roads would be restored, leaving 20- to 24-foot-wide permanent maintenance roads. Because of topography, grading of access roads would, in some limited cases, disturb an area up to 125 feet on either side of the centerline to accommodate appropriate cut or fill slopes to allow for the necessary road width and to comply with Kern County slope grading requirements and manufacturer specifications for construction and installation equipment.

All access roadways for internal circulation within the AEWP site would be private and would therefore be gated to restrict public use. Also, all modifications to existing onsite access roads and any new access roads are not expected to result in an increase to public transportation hazards or maintenance costs due to design or incompatible use. However, all new access roads would require Access Road Design and Encroachment Permits from both the County and Caltrans. Furthermore, roads construction BMPs (refer to Section 2.1.3.6) contain a number of AEWP specifications to ensure the design of all new access roads

would not create adverse circulation effects. Additionally, surface transportation construction BMPs (refer to Section 2.1.3.6) contain a number of AEWP specifications to ensure construction traffic would not create adverse safety hazards.

To ensure all new access roads do not create adverse effects, Mitigation Measures 4.16-4 (Coordination with County Roads Department) requires coordination with the County Road Department and will be incorporated as part of Alternative A. Transport of oversized loads (i.e., turbines, cranes, and dozers) on state and county roads will require permits from Caltrans and the County, respectively. The need for and number of pilot cars (a maximum of one to two pilot cars per vehicle that is wider than 12 feet), as well as the timing of the transport, will be at the discretion of Caltrans and the County and will be detailed in their respective oversized-load permits. To ensure all required permits for oversize loads and encroachment are obtained, Mitigation Measures 4.16-3 (Obtain Applicable Permits) which requires the project proponent to obtain all applicable permits will be incorporated as part of Alternative A.

An existing railroad line, owned by Union Pacific Railroad (UPRR), runs through the site running parallel and just south of SR 58. This UPRR line is also subdivided into a number of different dead end sidings used for offloading and loading railcars to the east and southeast of the AEWP site. A portion of this line would be crossed by the AEWP transmission line. To ensure rail line crossing of construction vehicles does not create adverse effects, Mitigation Measure 4.16-5 (Coordinate with Railroad) requires coordination with the UPRR and the Public Utility Commission Rail Crossings Engineering Section and will be incorporated as part of Alternative A.

In a scoping comment letter on the AEWP dated August 11, 2011, Caltrans indicated the Draft EIS/EIR should address potential AEWP access routes and required permits and requested that roads be repaired after construction. The implementation of Mitigation Measures 4.16-2 (Pavement Index Assessment) requires a pavement index assessment and roadway rehabilitation and addresses these comments.

In a scoping comment letter on the AEWP dated August 12, 2011, the California Public Utilities Commission (CPUC) indicated that the CPUC has jurisdiction over safety of highway-rail crossings. As the access road would cross the Union Pacific Railroad, coordination with the CPUC's Rail Crossings Engineering Section and Union Pacific is required to discuss safety issues, identify crossing being used to access AEWP, mitigation for crossing impacts, and possible permits. The implementation of Mitigation Measure 4.16-5 (Coordinate with Railroad) requires coordination with the UPRR and the Public Utility Commission Rail Crossings Engineering Section and addresses this comment.

In a scoping comment letter on the AEWP dated August 5, 2011, the County Development of Services Agency Roads Department indicated the Draft EIS/EIR should ensure that the project proponent obtain all necessary encroachment permits. The implementation of Mitigation Measures 4.16-3 (Obtain Applicable Permits) which requires the project proponent to obtain all applicable permits addresses this comment.

In a scoping comment letter on the AEWP dated May 2, 2011, the County Fire Department requested that the project proponent install and maintain access roads which interlace the AEWP site. The implementation of Mitigation Measures 4.16-4 (Coordination with County Roads Department) requires coordination with the County Road Department and would ensure that the County approves all site access roads and thus addresses this comment.

In a scoping comment letter on the AEWP dated July 18, 2011, Mr. John Chun requested that the project proponent provide paved access and utilities to four parts of APN 224-450-02-00-9. Alternative A site access roads are shown in Figure 2-9 of Appendix A. The implementation of Mitigation Measures 4.16-4 (Coordination with County Roads Department) requires coordination with the County Road Department and would ensure that the County approves all site access roads.

Emergency Access

Construction of the AEWP would generate construction trips and potential roadway lane closures. This could cause temporary disruptions to emergency access vehicle movement. Furthermore, construction of the AEWP and new internal access roads would result in temporary disruptions to on-site access and movements. Mitigation Measure 4-17.1 (Construction Traffic Control Plan) will be incorporated to ensure access of emergency vehicles to and through the site. Additionally, as discussed in Section 4.11 (Public Health and Safety), to ensure emergency access to and within the AEWP site during construction, Mitigation Measure 4-12.5 (Emergency Response Liaison) has been recommended, which would require the project proponent to appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the AEWP site that includes assurance of access for emergency vehicles.

In a scoping comment letter on the AEWP dated May 2, 2011, the County Fire Department requested that impacts to emergency services be discussed and that the project proponent install and maintain access roads which interlace the AEWP site. The implementation of Mitigation Measures 4.17-1 (Construction Traffic Control Plan), 4.16-4 (Coordination with County Roads Department), and 4.11-5 (Emergency Response Liaison) would require a Construction Traffic Control Plan and coordination with the County Roads Department and with the UPRR and would ensure emergency access not be disrupted during construction.

Parking

Designated parking spaces do not exist along the roadways in the AEWP area; therefore, construction-related traffic and roadway lane closures would not result in a reduction of available public parking supply. Additionally, construction vehicles would park at the construction staging areas located within the site, so available public parking would not be reduced or adversely affected.

Public Access and Alternative Transportation

There are no bicycle routes or facilities such as designated bicycle lanes on the roads discussed in this section. The Cameron Ridge segment of the Pacific Crest Trail passes within one mile of the northwestern portion of the AEWP area, north of State Route 58. This trail is assumed to include mountain bike activities. However, no construction traffic would cross or interfere with this trail.

The majority of the AEWP site is open desert private and BLM administered land in the County. BLM lands in the AEWP area are located within the Middle Knob Motorized Access Zone, as identified in the West Mojave Plan (WMP) amendment to the CDCA Plan. Primary recreation activities and resource uses occurring in the Zone are recreational vehicle touring/sightseeing, camping and hiking, hunting, domestic sheep and cattle grazing, utility corridor maintenance, communication site maintenance, wind energy, and mineral exploration. Security fencing would be installed in accordance with Kern County zoning requirements, which allow either fencing the exterior boundary of the entire AEWP boundary or fencing each wind turbine cluster or row independently. At this time, it has not been determined which of these options would be used. Fencing would discourage public access of the site. For an analysis of impacts to recreational resources, refer to Section 4.13, Recreation.

Security fencing for either option would consist of new steel "T" posts installed at 10- to 15-foot intervals with four strands of barbed wire a minimum of four feet high. The bottom strand of wire would be a minimum of 18 inches above ground. Signs warning of wind turbine dangers would be installed on all perimeter fences at 300-foot intervals and at all points of ingress and egress. Fencing would not interfere with access to existing ROWs crossing the AEWP area (e.g., transmission lines, railroad, gas pipelines, the Los Angeles Aqueduct, and public roadways). Cattle guards may be installed in grazing areas. Additionally, main access and interior access gates would be installed for the private property portions of the property; however, no public right-of-way would be obstructed. These features would discourage

public access of the site. For an analysis of impacts to recreational resources, refer to Section 4.12, Recreation.

Operation and Maintenance

Operations and Maintenance Traffic

Once constructed, the AEWP operations would typically employ a relatively small number of staff. 15 full-time and part-time employees, including wind turbine technicians, operations personnel, administrative personnel, and managers, would be employed to operate and maintain the AEWP. Employees required for operation of Alternative A are expected to originate from the local area. The operational workforce is expected to generate 12 daily trips, which would not result in a substantial number of trips on roadways in the metropolitan Bakersfield area.

During operation, workers will park at the facility's operations and maintenance building (see Figure 2-9 in Appendix A).

Roadway Capacity and LOS Degradation

Given the current capacity of traffic on roadways that would be used by AEWP-related traffic (refer to Table 3.16-2) and the remote rural nature of the area, the addition of operational traffic (12 worker trips per day) is not expected to exceed the capacity of area roadways or deteriorate any roadway LOS to an unacceptable level per the performance standards identified in Section 3.16.2. Surface transportation operational BMPs (refer to Section 2.1.3.6) require the project proponent to conduct ongoing ground transportation planning to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts

Access Roads and Roadway Hazards

To ensure new access roads do not create adverse effects during operation, Mitigation Measures 4-17-2 (Pavement Index Assessment) and 4.16-4 (Coordination with County Roads Department) will be incorporated. These Mitigation Measures will require that the project proponent conduct a pavement index assessment and load rating analysis to ensure all access points can accommodate construction related truck traffic and coordinate with the Kern County Roads Department for new access road design.

In a scoping comment letter on the AEWP dated August 11, 2011, Caltrans recommends the Draft EIS/EIR evaluate traffic safety during operation as wind debris could impact traffic. Surface transportation operational BMPs (refer to Section 2.1.3.6) require the project proponent to conduct ongoing ground transportation planning to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts. The implementation of this BMP addresses these comments.

Aircraft Traffic and Military Aviation

As noted in Section 3-17, the nearest public airstrip is the Mojave Air and Spaceport, located in the adjacent community of Mojave. The northern edge of the runway is located 3.1 miles southeast of the closest portion of the AEWP boundary. Portions of the AEWP boundary located within Section 26 are within Zone C of the Airport Land Use Compatibility Plan (ALUCP) and the entire section is within the Sphere of Influence for the airport. Though portions of the AEWP boundary are within the ALUCP, no WTGs or WE Zoning is proposed within the boundaries of the ALUCP or Sphere of Influence. In fact, the closest proposed WTG as shown on the conceptual site plan prepared by the project proponent is located 3.5 miles northwest of the runway.

The boundary of Edwards Air Force Base, a military flight airspace, is located 9.5 miles southeast of the AEWP site. Edwards Air Force Base covers nearly 308,000 acres, and contains two parallel runways

oriented northeast/southwest, Runways 4/22 left and right. Edwards Air Force Base is operated by the United States Air Force, and serves air force military aircraft (AirNav 2010j).

The Pontious Airport in Mojave is the nearest private airstrip, located 10 miles southeast of the AEWP boundary. The Pontious Airport consists of two private use airstrips, and permission is required prior to landing. (AirNav 2011a).

Because the AEWP does not include structures exceeding 500 feet in height, it would comply with Kern County Zoning Ordinance 19.08.160 and Section 3.3.1 of the Kern County ALUCP. Additionally, no WTGs or WE zoning is proposed within the boundaries of the ALUCP and the AEWP is located more than 10 miles from the nearest private airport. Furthermore, because the western boundary of the Edwards Air Force Base is located 9.5 miles southeast of the AEWP site, the AEWP is not considered to be within close enough proximity to Edwards Air Force Base to result in significant impacts and is therefore consistent with Section 4.16.2.3 of the Kern County ALUCP. Therefore, the AEWP will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

Emergency Access

To ensure new access roads do not create adverse effects to emergency access during operation, Mitigation Measure 4.16-4 (Coordination with County Roads Department) will be incorporated to ensure adequate emergency access during operation.

Parking

During operation, workers will park at the AEWP operations and maintenance building, as shown in Figure 2-9 of Appendix A. Therefore, no parking on public roadways would occur.

Public Access and Alternative Transportation

As discussed above for Alternative A construction, security fencing and access gate features would discourage public access of the site. For an analysis of operational impacts to recreational resources, refer to Section 4.12, Recreation.

Decommissioning

At the end of the life of the AEWP, the wind turbines would be dismantled and removed from the site and the site would be returned to its original condition. Decommissioning activities are assumed to generate a similar amount of daily traffic as that generated by construction of the AEWP. Since the AEWP is determined to have no adverse impacts at any of the study area roadway capacities or LOS performance standards during construction, it is assumed that no adverse impacts would occur due to the traffic generated during the decommissioning phase of Alternative A.

4.16.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance determinations for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.16.2. Only those significance criteria which were determined in Section 4.16.2 to be relevant to the AEWP are addressed below.

Construction, Operation and Maintenance, Decommissioning

- **TR-1 (*Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit*).** Impacts related to CEQA significance criterion TR-1 would be less than significant.

- **TR-2 (*Conflict with an applicable congestion management program, including, but not limited to exceeding, a Level of Service (LOS) standard or other standards established by the county congestion management agency or adopted County threshold for designated roads or highways: i. Metropolitan Bakersfield General Plan LOS "C"; ii. Kern County General Plan LOS "D"*).** Impacts related to CEQA significance criterion TR-2 would be less than significant.
- **TR-3 (*Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks*).** Impacts related to CEQA significance criterion TR-3 would be less than significant. Additional discussion of AEWP compliance with FAA requirements is found in Chapter 4.11, Public Health and Safety.
- **TR-4 (*Substantially increase hazards due to a design feature [e.g., sharp curves or dangerous intersections] or incompatible uses [e.g., farm equipment]*).** The implementation of BMPs (refer to Section 2.1.3.6), surface transportation construction BMPs (refer to Section 2.1.3.6), and Mitigation Measure 4.16-4 (Coordination with County Roads Department) would reduce impacts related to CEQA significance criterion TR-4 to a less than significant level.
- **TR-5 (*Result in inadequate emergency access*).** The implementation of a Mitigation Measures 4.17-1 (Construction Traffic Control Plan), 4.16-4 (Coordination with County Roads Department), and 4.11-5 (Emergency Response Liaison) would reduce impacts related to CEQA significance criterion TR-5 to a less than significant level.
- **TR-6 (*Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities*).** Impacts related to CEQA significance criterion TR-7 would be less than significant.

4.16.4 Alternative B: Revised Site Layout

4.16.4.1 Direct and Indirect Impacts

Alternative B would utilize the same materials and equipment as the Alternative A, but would result in slightly different on-site access road configuration as Alternative A. Therefore, the intensity of traffic per day is assumed to be the same as described in Section 4.16.3.1.

Construction

Potential impacts to roadway capacity and degradation of existing LOS, access roads and roadway hazards, emergency access, parking, and public access and alternative transportation during construction of Alternative B would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

Potential impacts to roadway capacity and degradation of existing LOS, access roads and roadway hazards, aircraft traffic and military aviation, emergency access, parking, and public access and alternative transportation during operation and maintenance of Alternative B would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

At the end of the life of Alternative B, the wind turbines would be dismantled and removed from the site and the site would be returned to its original condition. Decommissioning impacts associated with Alternative B are assumed to be the same as Alternative A.

4.16.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Significance conclusions for the impacts identified for each phase of Alternative B (Construction, Operation and Maintenance, Decommissioning) would be the same for Alternative B as described above for Alternative A. Based on the CEQA Significance Criteria presented in Section 4.16.2, potential impacts of Alternative B would be less than significant.

4.16.5 Alternative C: Reduced Project North

4.16.5.1 Direct and Indirect Impacts

Alternative C would utilize the same materials and equipment as the Alternative A, but could result in slightly less daily traffic volumes as Alternative A due to the removal of Parcel 28 and associated Alternative A structures proposed on this removed portion of the site. Therefore, the intensity of traffic per day is assume to be the same or slightly reduced as described in Section 4.6.1.1.

Construction

Potential impacts to roadway capacity and degradation of existing LOS, access roads and roadway hazards, emergency access, parking, and public access and alternative transportation during construction of Alternative C would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

Potential impacts to roadway capacity and degradation of existing LOS, access roads and roadway hazards, aircraft traffic and military aviation, emergency access, parking, and public access and alternative transportation during operation and maintenance of Alternative C would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

At the end of the life of Alternative C, the wind turbines would be dismantled and removed from the site and the site would be returned to its original condition. Decommissioning impacts associated with Alternative C are assumed to be the same as Alternative A.

4.16.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Significance conclusions for the impacts identified for each phase of Alternative C (Construction, Operation and Maintenance, Decommissioning) would be the same for Alternative C as described above for Alternative A. Based on the CEQA Significance Criteria presented in Section 4.16.2, potential impacts of Alternative C would be less than significant.

4.16.6 Alternative D: Reduced Project Southwest

4.16.6.1 Direct and Indirect Impacts

Alternative D would use the same materials and equipment as the Alternative A, but could result in slightly less daily traffic volumes than Alternative A due to the removal of Parcel 34 and associated Alternative A structures proposed on this portion of the site. Therefore, the intensity of traffic per day is assume to be the same or slightly reduced as described in Section 4.6.1.1.

Construction

Potential impacts to roadway capacity and degradation of existing LOS, access roads and roadway hazards, emergency access, parking, and public access and alternative transportation during construction of Alternative D would be the same as described under "Construction" for Alternative A.

Operation and Maintenance

Potential impacts to roadway capacity and degradation of existing LOS, access roads and roadway hazards, aircraft traffic and military aviation, emergency access, parking, and public access and alternative transportation during operation and maintenance of Alternative D would be the same as described under "Operation and Maintenance" for Alternative A.

Decommissioning

At the end of the life of Alternative D, the wind turbines would be dismantled and removed from the site and the site would be returned to its original condition. Decommissioning impacts associated with Alternative D are assumed to be the same as Alternative A.

4.16.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Significance conclusions for the impacts identified for each phase of Alternative D (Construction, Operation and Maintenance, Decommissioning) would be the same for Alternative D as described above for Alternative A. Based on the CEQA Significance Criteria presented in Section 4.16.2, potential impacts of Alternative D would be less than significant.

4.16.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.16.7.1 Direct and Indirect Impacts

Under this alternative, the BLM and the County would not approve the AEWP and would not amend the CDCA Plan. As a result, no wind energy project would be constructed, and the BLM and the County would continue to manage the site lands under their jurisdiction consistent with the existing land use designation in the CDCA Plan and County General Plan and Zoning Code. No action would occur and existing conditions relevant to transportation and public access would continue. No impacts associated with the AEWP or alternatives would occur. The land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's CDCA Plan and County regulations, including another renewable energy project.

4.16.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

Alternative E would not result in transportation or public service impacts.

4.16.8 Alternative F: No Issuance of a ROW Grant or County Approval; Approval of a Land Use Plan Amendment to Exclude Wind Energy Development on the Site of the Project (No Project)

4.16.8.1 Direct and Indirect Impacts

Under this alternative, the BLM and the County would not approve the AEWP and BLM would amend the CDCA Plan to make the BLM portions of the site unavailable for future wind energy development. As a result, no wind energy project would likely be constructed on the site, and the BLM would continue to manage the site consistent with the existing land use designation in the CDCA Plan. No action would occur and no future development of the BLM portion of the AEWP site for wind energy would occur. Existing conditions relevant to transportation and public access would continue, but may be altered at some point in the future by construction of a project other than wind energy development. No impacts associated with the AEWP or an alternative would occur.

4.16.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; Approval of a Land Use Plan Amendment to Exclude Wind Energy Development on the Site of the Project (No Project)

Alternative F would not result in transportation or public access impacts.

4.16.9 Alternative G: No Issuance of ROW Grant or County Approval; Approval of a Land Use Plan Amendment to Make Site Available for Future Wind Energy Development (No Project)

4.16.9.1 Direct and Indirect Impacts

Under this alternative, the BLM and the County would not approve the AEWP and BLM would amend the CDCA Plan to allow for other wind projects on the site. As a result, it is possible that another wind energy project could be constructed on the site. No action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP would occur. In the future, if another wind development project is implemented, similar impacts to transportation and public access as those described for Alternative A could occur.

4.16.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of ROW Grant or County Approval; Approval of a Land Use Plan Amendment to Make Site Available for Future Wind Energy Development (No Project)

As a future wind development project would likely be implemented under Alternative G, the transportation and public access significance determinations for Alternative G are assumed to be similar or the same as those described for Alternative A.

4.16.10 Cumulative Impacts

Cumulative transportation and public access impacts resulting from the project would occur if similar impacts of other projects located within the geographic extent of this analysis were to occur during the same time period as those impacts of the AEWP, including during the construction, operation and maintenance, and decommissioning phases.

4.16.10.1 Geographic Extent/Context

For the purposes of the cumulative analysis of transportation and access impacts, only other projects that make a contribution to traffic along the same roadways (as described in Section 3.16-2) as the AEWP are considered. During construction of the project, roadway segments that AEWP related trips would combine with other projects under construction nearby could experience appreciable increases in traffic. Therefore, the study area for cumulative impacts includes other projects that might contribute traffic to the same intersections and street segments.

4.16.10.2 Existing Cumulative Conditions

A wide variety of activities and development contribute to the current cumulative conditions for transportation and public access in the AEWP area, including residential, commercial, and industrial development in the local area. SR 14 (also called the Antelope Valley Freeway in the AEWP area) is the principal regional access route leading to the AEWP site. SR 14 connects the Community of Mojave, south of the AEWP site, to the Communities of Lone Pine and Big Pine, the City of Bishop, and the Mammoth Mountain Resort areas to the north. SR 58 provides for interregional and interstate travel, and is one of two major east/west thoroughfares through Kern County. SR 58 also serves as an alternative route to Interstate 5, to and from the Central Valley. The route accommodates significant volumes of heavy trucks traveling between central and southern California. Past and ongoing projects and activities (including adjacent wind energy project development) using these two main regional highways would combine with traffic generated by the AEWP or an alternative to affect transportation and public access within the vicinity of the AEWP site.

4.16.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this Final EIS/EIR.

A number of cumulative projects are identified in Table 4.1-1 with the potential to result in transportation and public access impacts that could combine with similar impacts of the AEWP. After review, the following projects within proximity of the AEWP were found to have (1) the highest potential for sharing roadway segments and intersections utilized by AEWP-related traffic, (2) the potential to have overlapping construction schedules with the AEWP and generate substantial traffic volumes were considered, and (3) were far enough along in the planning process to provide quantitative traffic volumes at the time this cumulative analysis was prepared. Therefore, the following projects were used to develop the analysis of cumulative effects for transportation and public access:

- Alta East Wind Energy Project
- Pacific Wind Energy Project (enXco)
- Alta Infill IIWind Project
- Catalina Renewable Energy Project (enXco)
- Lower West Wind Energy Project
- Morgan Hills Wind Energy Project
- North Sky River Wind Energy Project and Jawbone Wind Energy Project
- Antelope Valley Solar Project

Construction of the AEWP is anticipated to commence in 2012 and require 9 to 12 months to complete (see Section 2.1.3.3). Of the cumulative projects listed in Table 4.1-1, Table 4.16-3 provides a listing of those projects that had traffic data available at the time of preparation of this Final EIS/EIR, and includes a summary of projects and construction and operational traffic volumes (as provided by each projects environmental document). These projects were selected because they were reasonably foreseeable projects that could have potentially overlapping construction schedules, generated substantial traffic volumes, and included traffic generation data.

Table 4.16-3. Cumulative Project Traffic Generation

	Construction		
Project	**Worker ADT[1]**	**Truck ADT**	**Operational ADT**
Alta East Wind Energy Project	262	114	12
Pacific Wind Energy Project (enXco)	300	124	50
Alta Infill Wind Project	492	326	120
Catalina Renewable Energy Project (enXco)	316	401	24
Lower West Wind Energy Project	25	10	2
Morgan Hills Wind Energy Project	262	114	15
North Sky River Wind Energy Project and Jawbone Wind Energy Project	300	366	32
Antelope Valley Solar Project	325	50	15
Total	*2,282*	*1,505*	*270*

Notes: [1] One-way peak hour trips
Source: KCPD, 2011c.

4.16.10.4 Construction

As shown in Table 4.16-3, cumulative projects with the potential to combine with AEWP construction traffic are estimated to generate a total of 2,282 Average Daily Trips (ADT) for workers during the morning and afternoon commute hours, and 1,505 large truck trips per day (which are assumed to occur throughout the average work day). In the event construction of these projects all overlapped and used the same portions of State Routes 14 and 58, this level of traffic could have the potential to exceed the capacity of these roadways and temporarily degrade the LOS to below Kern County performance standards. However, as construction would be temporary, any degradation would be short-term.

As shown in Table 4.16-3, AEWP construction would contribute the second smallest amount of daily truck trips, which have the greatest potential to disrupt existing LOS. Furthermore, it is unknown how many of these projects would have overlapping construction periods. Typically, daily traffic numbers represent the peak traffic period of each project, used to assess the worst-case scenario during environmental review. Mitigation Measure 4.17-1 (Construction Traffic Control Plan) requires the preparation of a Construction Traffic Control Plan which includes specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during A.M. and P.M. peak hours, distributing construction traffic flow from State Routes 14 and 58 across alternative routes to access the AEWP site, minimizing use of Oak Creek Road, and avoiding residential neighborhoods to the maximum extent feasible. The other projects identified in Table 4.16-3 are also under County review and are each assumed to include the preparation of a Construction Traffic Control Plan, which allows the County to offset overlapping traffic impacts. Therefore, the AEWP would not make a significant contribution to cumulative construction traffic impacts under CEQA.

With regard to a cumulative increase hazards caused by a design feature or incompatible uses, all future development within Kern County will be subject to Kern County and Caltrans regulations on roadway alterations/development and oversize vehicle trips. Additional development of the county, particularly large commercial and industrial center development as well as new residential housing in undeveloped areas (as identified in Table 4.1-1) will generate the need for new public roadways and access points. Furthermore, large development projects and other electrical transmission projects (as identified in Table 4.16-3) will likely require the use of large oversized trucks on public roadways and highways during construction. However, each individual project will require Kern County and Caltrans approvals and permits pertaining to these issues. The implementation of Mitigation Measures 4.16-3 (Obtain Applicable Permits) and 4.16-4 (Coordination with County Roads Department) would ensure that the AEWP be in compliance with applicable Kern County and Caltrans regulations for transportation and traffic safety. Therefore, impacts of the AEWP would not combine with impacts of past, present, and reasonably foreseeable projects to result in a significant cumulative impact with regard to an increase in transportation and traffic hazards.

Adequate parking would be provided for construction equipment and employees. Therefore, impacts of the AEWP would not combine with impacts of past, present, and reasonably foreseeable projects.

4.16.10.5 Operation and Maintenance

As shown in Table 4.16-3, cumulative projects with the potential to combine with AEWP traffic are estimated to potentially generate a total of 270 ADT during operation. This level of traffic is not expected to have the potential to exceed the capacity of shared roadways and would not significantly degrade the LOS to below the County performance standards. As shown in Table 4.16-3, the AEWP would contribute the second smallest amount of daily operational trips, which have the greatest potential to disrupt existing LOS. Therefore, the AEWP would not make a significant contribution to cumulative construction traffic impacts.

With regard to a cumulative change in air traffic patterns that results in substantial safety risks, all future development within the County would be subject to FAA and County regulations on airspace and airport related encroachment. Additional development of the County, particularly other large energy projects as identified in Table 4.16-3, will likely contain structures in excess of FAA and County height thresholds which would require FAA Form 7460 and County Zoning Ordinance compliance analysis. As such, each individual project within the County would require approval and compliance with these issues. Therefore, impacts of the wind component of the AEWP would not have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact related to a change in air traffic patterns that result in substantial safety risks.

With regard to a cumulative increase in inadequate emergency access, future development of the County will contribute to congestion on area roadways that could combine with future construction and temporarily limit emergency vehicle access and response times. Development projects within the area (as identified in Table 4.16-3) will increase the overall number of vehicle trips on roads within the county. Furthermore, all development projects within the area (as identified in Table 4.1-1) have the potential to require temporary roadway and access point closures during construction. Implementation of Mitigation Measures 4.16-1 (Construction Traffic Control Plan) and 4.11-5 (Coordinate with Railroad) would reduce impacts to emergency access during construction. Once operational, Mitigation Measure 4.16-4 (Coordination with County Roads Department) would ensure all access roads provide adequate emergency access. Therefore, impacts of the AEWP would not combine with impacts of past, present, and reasonably foreseeable projects to result in a significant cumulative impact.

Operation of the AEWP would not conflict with any adopted policies, plans, or programs supporting alternative transportation. As these impacts would be site specific for all cumulative projects identified in Table 4.1-1, impacts of the AEWP would not combine with impacts of past, present, and reasonably

foreseeable projects to result in a significant cumulative impact. For an analysis of cumulative impacts to recreational resources, refer to Section 4.12, Recreation.

4.16.10.6 Decommissioning

Upon permanent closure of the AEWP, it is unknown what the potential cumulative contribution to transportation impacts would be as the number and proximity of cumulative projects in 30 years (expected life of the AEWP) is unknown. It is assumed that the analysis of cumulative construction impacts discussed above in Section 4.16.10.4 could occur during decommissioning.

4.16.10.7 CEQA Significance and Impact Determinations, Cumulative

- **TR-1 (*Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit*).** Cumulative impacts related to CEQA significance criterion TR-1 would be less than significant**.**
- **TR-2 (*Conflict with an applicable congestion management program, including, but not limited to exceeding, a Level of Service (LOS) standard or other standards established by the county congestion management agency or adopted County threshold for designated roads or highways: i. Metropolitan Bakersfield General Plan LOS "C"; ii. Kern County General Plan LOS "D"*).** Cumulative impacts related to CEQA significance criterion TR-2 would be less than significant**.**
- **TR-3 (*Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks*).** Impacts related to CEQA significance criterion TR-3 would be less than significant. Additional discussion of AEWP compliance with FAA requirements is found in Chapter 4.11, Public Health and Safety.
- **TR-4 (*Substantially increase hazards due to a design feature [e.g., sharp curves or dangerous intersections] or incompatible uses [e.g., farm equipment]*).** The implementation of BMPs (refer to Section 2.1.3.6), surface transportation construction BMPs (refer to Section 2.1.3.6), and Mitigation Measures 4.16-1 (Construction Traffic Control Plan) and 4.16-4 (Coordination with County Roads Department), would reduce impacts related to CEQA significance criterion TR-4 to a less than significant level.
- **TR-5 (*Result in inadequate emergency access*).** The implementation of a Mitigation Measures 4.16-1 (Construction Traffic Control Plan) and 4.11-4 (Coordination with County Roads Department) would reduce impacts related to CEQA significance criterion TR-5 to a less than significant level.
- **TR-6 (*Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities*).** Cumulative impacts related to CEQA significance criterion TR-7 would be less than significant.

4.16.11 Mitigation Measures

MM 4.16-1 **Construction Traffic Control Plan.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall prepare and submit a *Construction Traffic Control Plan* to the Kern County Roads Department and to the California Department of Transportation for review. The Construction Traffic Control Plan must be prepared in accordance with both the Caltrans Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook (WATCH) Manual and shall include detailed information on the following:

1. Timing and schedule of heavy equipment and building materials deliveries;
2. Directing construction traffic with a flag person;

3. Placement of temporary signing, lighting, and traffic control device placement as required; including, but not limited to: appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;
4. Determination of the need for construction work hours and arrival/departure times outside peak traffic periods;
5. Ensure access for emergency vehicles to the project site;
6. Temporary closure of travel lanes or disruptions to street segments and intersections during materials delivery, transmission line stringing activities, or any other utility connections;
7. Maintain access to adjacent property;
8. Specification of both construction-related vehicle travel and oversize load haul routes, the minimization of construction traffic during the A.M. and P.M. peak hour, distributing construction traffic flow from State Routes 14 and 58 across alternative routes to access the project site, minimizing use of Oak Creek Road, and avoiding residential neighborhoods to the maximum extent feasible; and
9. Identification of vehicle safety procedures for entering and exiting site access roads.
10. Provisions for the establishment of a traffic control coordinator. The traffic control coordinator shall be responsible for responding to any local complaints about project construction and operational traffic concerns. The traffic control coordinator shall determine the cause of the traffic complaint and shall be required to implement reasonable measures to resolve the complaint. Signs posted along the project construction and operations access routes shall list the telephone number for the traffic control coordinator.

MM 4.16-2 **Pavement Index Assessment.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall conduct a pavement index assessment and load rating analysis to ensure all access points can accommodate construction related truck traffic. The traffic index assessment shall determine the required pavement structure required to accommodate the additional truck trips and then implement pavement repairs to achieve save passage of construction-related truck traffic. The project proponent shall implement all recommendations of the pavement including roadway rehabilitation or other structural improvements. The project proponent shall coordinate with all applicable affected jurisdictions (such as the Los Angeles Department of Water and Power and Caltrans) and shall obtain any required permits prior to construction of improvements. The project proponent shall implement appropriate wheel load weight distribution and/or physical improvements to aqueduct crossings to ensure such crossings are adequately protected.

MM 4.14<u>6</u>-3 **Obtain Applicable Permits.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall obtain all applicable permits from the California Department of Transportation, Kern County, and any other applicable agencies pertaining to vehicle sizes, weights, roadway encroachment, <u>grading,</u> and travel routes needed for the first phase of construction. The project proponent shall also obtain any additional permits needed for each remaining phase of construction prior to delivery and acceptance of materials for that phase. The project proponent shall continuously adhere to all conditions of said permits throughout implementation of the project.

MM 4.16-4 **Coordination With County Roads Department.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall coordinate with the Kern County Roads Department to implement the following:

a. For those portions of the project that will use public roads, s~~S~~ubmit engineering drawings of project access road design for the review and approval of the Kern County Roads Department.

b. Obtain an encroachment permit from the Kern County Roads Department for any activities within the County road right-of-way or on applicable roads in the Kern County road maintenance system.

c. Enter into a secured agreement with Kern County to ensure that any County roads that are demonstrably damaged by project-related activities is promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the state and or Kern County."

MM 4.16-5 **Coordinate With Railroad.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall develop and coordinate with Union Pacific Railroad and the California Public Utility Commission Rail Crossings Engineering Section a crossing safety plan for all phases of project construction to address foot traffic as well as construction-related vehicle crossing and the transport of heavy/oversize loads that may occur over Union Pacific rail line as well as obtaining all required permits.

4.16.12 Residual Impacts After Mitigation

No unavoidable adverse impacts would occur related to transportation and public access after implementation of Mitigation Measures 4.16-1 through 4.16-5 (described above), and 4.11-5 (Emergency Response Liaison).

4.17 Vegetation Resources

4.17.1 Methodology for Analysis

This analysis is based on information from the focused special-status vegetation surveys and vegetation mapping conducted for the Alta East Wind Project (AEWP); as well as information found in the California Natural Diversity Database (CNDDB), the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory, the Manual of California Vegetation, and lists of special-status species (see Section 3.17 for details).

4.17.1.1 Direct and Indirect Impacts

Effects to vegetation resources at the AEWP are classified as direct or indirect. Direct impacts as those impacts that result from a project and occur at the same time and place [40 C.F.R 1508.8(a)]. Indirect impacts are caused by a project, but can occur later in time or farther removed in distance while still reasonably foreseeable and related to the project [40 C.F.R 1508.8(b)].

The potential impacts discussed in this analysis are those most likely to be associated with construction and operation of the AEWP. Construction impacts would include both direct and indirect impacts to vegetation resources. Operational impacts would also include both direct and indirect impacts to vegetation resources. Ongoing operations and maintenance impacts would occur during routine inspection and maintenance of the AEWP facilities and would include such activities as routine inspections and emergency repairs.

Impact analyses also characterize effects to vegetation resources as temporary or permanent, with a permanent impact referring to areas that are paved or otherwise precluded from restoration, and a temporary impact referring to areas that can be restored to a pre-project state. It should be noted that some temporary impact areas may be considered permanent impacts if the revegetation criteria described below are not met. Temporary disturbance would result from batch plant/laydown area, trenching for the underground collection circuits, construction access roads, construction areas at each transmission-line pole and meteorological tower, and turbine assembly areas. Permanent disturbance would be a result from the foundation and permanent access pad at each wind turbine generator (WTG), a network of 25-foot-wide roads that would provide access to each WTG, two (2) permanent meteorological towers, transmission line poles, substation, and operations and maintenance (O&M) facility.

4.17.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on vegetation resources if it would:

VG-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service;

VG-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service;

VG-3 Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

VG-4 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

VG-5 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The AEWP would not have an effect on any federally protected wetlands as defined by Section 404 of the Clean Water Act (Significance Criterion VG-3), as no such areas occur within of adjacent to the project site (see Section 3.17.4.4). The AEWP would not conflict with the provisions of an approved local, regional, or state Habitat Conservation Plan (Significance Criterion VG-5) since no such plan is currently applicable to the AEWP. The AEWP is within the boundaries of the West Mojave Plan (WEMO), which is comprised of a pending Habitat Conservation Plan and an approved amendment to the California Desert Conservation Area Plan for the desert tortoise, Mohave ground squirrel, and nearly 100 additional species. The WEMO was approved as an amendment to the California Desert Conservation Area (CDCA) Plan for federal lands under the jurisdiction of the Bureau of Land Management (BLM) in 2006, and the portion of the WEMO that would apply to non-BLM lands is still pending. Therefore, the regional Habitat Conservation Plan portion of the WEMO is not currently applicable to the AEWP. Through AEWP design and implementation of the mitigation measures described in this section, the AEWP would remain consistent with the conservation goals of the WEMO. Therefore, Significance Criteria VG-3 and VG-5 are not considered further in this section.

4.17.3 Alternative A: Project

4.17.3.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts covers construction of 106 WTGs, 19 miles of new access roads, one (1) O&M facility, underground collection circuits, batch plant and laydown areas, one (1) substation, 15 miles of 230-kV transmission line, interconnect, two (2) meteorological towers, and decommissioning of the AEWP.

Construction

Vegetation Communities

Construction activities associated with the AEWP would result in direct temporary and permanent losses of native vegetation ~~(Figure 4.17-1)~~. These losses would occur through vegetation clearing, grading, or other surface disturbance (e.g., driving over vegetation). In desert ecosystems, the definition of permanent impacts needs to reflect the slow recovery rates of its plant communities. Natural recovery rates from disturbance to these ecosystems depend on the nature and severity of the impact. For example, creosote bush can re-sprout a full canopy within five years after damage from heavy vehicle traffic (Gibson et al., 2004), but more severe damage involving vegetation removal and soil disturbance can take over a decade or more to fully recover. Other less-resilient species subjected to damage from heavy vehicle traffic are likely to die from such treatment, either immediately or over time.

Table 4.17-1 presents the temporary and permanent direct impacts to vegetation communities/land covers from construction of the AEWP. The total area estimated for use by the AEWP is 563 acres of temporary disturbance and 94 acres of permanent disturbance within the 2,891-acre project area (which includes the proposed transmission line corridor). The total impact area includes 129 acres of temporary and 24 acres of permanent impacts that occur off-site (i.e., features outside of the project boundary and transmission line or features that the project proponent has not yet identified locations for).

Eleven (11) vegetation communities and land cover types occur within the AEWP site and transmission line route. The AEWP would result in direct impacts to 10 of the 11 vegetation communities and land cover types (Table 4.17-1). No impacts to rabbitbrush scrub are anticipated. Two (2) of the 11 vegetation communities and land cover types are considered sensitive vegetation communities according to the CDFG (2010; the rarity ranking of which can be found in Table 4.17-1): Joshua tree woodland and scalebroom scrub. The AEWP would result in total direct impacts to 227.3 acres of Joshua tree woodland and 4.6 acres of scalebroom scrub. The AEWP would result in permanent impacts to 24.8 acres of Joshua tree woodland and 0.8 acre of scalebroom scrub.

Construction activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would result in indirect impacts to vegetation from increased levels of fugitive dust that may settle on surrounding vegetation. Increased levels of dust can affect plants' photosynthetic capabilities, affect their productivity and nutritional qualities, interfere with reproduction, and degrade the overall vegetation community. For example, the maximum rate of net photosynthesis of plants that received fine dust particulates was reduced to 21 percent (21%) of those of control plants in resinous leaflets of creosote bush, to 44 percent (44%) in resinous leaves and photosynthetic stems of cheesebush, and to 58 percent (58%) in non-resinous leaves of fourwing saltbush, which have vesiculated trichomes (small sac-like hairs; Sharifi et al., 1997). Plants of all three species that received fine dust particulates showed reduced maximum leaf conductance, transpiration, and instantaneous water-use efficiency (Sharifi et al., 1997). Construction activities would also result in direct and indirect impacts to vegetation communities through soil erosion, which can accelerate the loss of nutrients in the soil and reduce the amount of nutrients available to plants in those vegetation communities (Li et al., 2008; Okin et al., 2001).

The AEWP's direct impacts to vegetation, including sensitive vegetation, can be reduced through implementation of Mitigation Measures 4.17-1 and 4.17-2 (the full text of all mitigation measures is presented below in Section 4.17.11):

- Mitigation Measure 4.17-1 (Habitat Restoration and Revegetation Plan) requires revegetation of temporary project impacts and mitigation for permanent impacts to native vegetation and ruderal or disturbed habitats if those habitats support burrowing owl and/or desert tortoise. Permanent impacts to desert wash and riparian habitat would be mitigated at a minimum 3:1 or as identified in the California Department of Fish and Game Streambed Alteration Agreement. ~~, while a~~ All other native habitats supporting burrowing owl and/or desert tortoise shall be mitigated at a 1:1 ratio for permanent impacts, or as otherwise identified in the California Department of Fish and Game Incidental Take Permit or United States Fish and Wildlife Biological Opinion. ~~non-native habitats supporting burrowing owl and/or desert tortoise would be mitigated at 1:1.~~ Permanent impacts would be mitigated through one or more of the

following: acquisition and conservation of off-site lands; onsite restoration, enhancement, and management of disturbed areas not impacted by the AEWP; or mitigation banking.

- Mitigation Measure 4.17-2 (Joshua Tree Preservation Plan) requires the project proponent to document the location and acreage of Joshua tree woodland that would be permanently impacted, minimize potential impacts to Joshua tree woodland, and provide compensatory mitigation for permanent impacts. Compensatory mitigation would include preservation and management (in perpetuity) of Joshua tree woodland on- or off site, and/or in lieu monetary funding for the acquisition and management in perpetuity of Joshua tree woodland habitat or habitats similar to those that contain impacted Joshua trees on site.

Impacts to vegetation from fugitive dust and erosion would be mitigated by implementation of Mitigation Measures 4.2-1 (Construction fugitive dust emission reduction) and 4.2-3 (Operation fugitive dust and equipment emissions reduction), which require measures to minimize dust during construction activities, and 4.19-3 (Drainage design plan), which requires measures to minimize erosion during construction.

Special-Status Plant Species

The AEWP could result in impacts to individuals or populations of three (3) special-status plant species documented within the rare plant survey area: Bakersfield cactus, pale-yellow layia, and adobe yampah. Special-status plant populations identified during project surveys are shown on Figures 2 and 3 of the *Alta East Wind Energy Project 2011 Botanical Survey Report* (GANDA, 2011a, located in Appendix D).

Direct impacts to special-status plant species present on site could occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of WTGs, meteorological towers, and transmission towers; trenching for the underground collection circuits; or the grading of access roads, laydown areas, and the substation and O&M facility may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support special-status species is impaired. Dust from road travel, grading, or other construction activities may also reduce photosynthetic capacity in plants over time or inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. Potential indirect impacts include the creation of conditions that are favorable for the invasion of weedy exotic species that outcompete native species and prevent the establishment of desirable vegetation.

As discussed in Section 3.17.1.3, California Rare Plant Rank (CRPR) 1A plants are "presumed extinct in California," CRPR 1B and 2 plants are "rare or endangered in California," CRPR 3 plants requires more information, and CRPR 4 plants are species that "need monitoring for changes in population status."

Bakersfield cactus (Endangered [ESA and CESA]; CRPR 1B.1; BLM Sensitive) – As described in Section 3.17.1.3, there is currently some scientific disagreement about the proper taxonomic characteristics that should be applied to identify the federal and State endangered Bakersfield cactus (*O. basilaris* var. *treleasei*), as opposed to the closely related variety, beavertail cactus (*O. b*. var. *basilaris*). Using identification criteria offered recently by CDFG, the listed species is very common on the AEWP (GANDA, 2011a). Under this recently-issued guidance, plants possessing any one of the diagnostic characters (identified as a specific number

and position of areoles, presence and length of spines on pads and ovary/fruits, leaf length, lack of downy hairs on pads and fruits, and specific chromosome number) are to be considered Bakersfield cactus under the CESA. However, using the keys and descriptions published in standard floras, which are consistent with the identification of Bakersfield cactus under the federal ESA, there are few individuals of the listed species on site (see GANDA, 2011a for a detailed discussion).

The AEWP would not directly impact any individual Bakersfield cactus meeting the federal definition of the listed taxon. Fourteen (14) such plants were identified in the project area during 2010 and 2011 rare plant surveys, and all would be avoided by the AEWP. However, numerous individuals which can be classified as Bakersfield cactus under the 2011 CDFG guidelines (as described in Section 3.17 and GANDA, 2011a) were found in the hills in the northern portion of the project area. A total of 112 individuals of Bakersfield cactus meeting the CDFG criteria were mapped within the AEWP survey area in 2011, and 363 Bakersfield cactus were mapped throughout the project site in 2010 (GANDA 2010, 2011a). A total of 465 specimens are mapped within the current site boundaries. It is likely that some of these individuals would be directly impacted by the AEWP, but the exact number of affected individuals cannot be calculated at this time pending final engineering and micro sitting of proposed wind turbines. To the extent removal of these cacti cannot be avoided, Mitigation Measure 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants) requires that the project proponent compensate for their loss by transplanting these cacti to lands that would not be affected by the AEWP and would be protected in perpetuity, in compliance with incidental take authorizations issued by the USFWS and CDFG.

Pale-yellow layia (CRPR 1B.1; BLM Sensitive) – The AEWP could impact two (2) of the three (3) populations identified during surveys. Only one (1) plant was identified at each location during surveys; however, rainfall in the area was lower than average and other annual species in the area showed low germination rates during the 2011 botanical surveys. Therefore, impacts to exact numbers of this species cannot be calculated because the numbers of annuals germinating in a given population varies from year to year. However, it is likely that two (2) populations of pale-yellow layia would be directly impacted by construction of the AEWP. The AEWP would not impact the location of the third population that was found just outside of the survey area.

Adobe yampah (CRPR 4.3) – the AEWP could impact up to 10 populations of adobe yampah that have been mapped within the AEWP site. The exact number of affected individuals cannot be calculated at this time pending final engineering.

Table 4.17-1. Temporary and Permanent Direct Impacts to Vegetation Communities (in acres)

Vegetation Community/Land Cover	State Rarity Ranking	Alternative A			Alternative B			Alternative C			Alternative D		
		Impacts (acres)			Impacts (acres)			Impacts (acres)			Impacts (acres)		
		Temporary	Permanent	Total	Temporary	Permanent	Total	Temporary	Permanent	Total	Temporary	Permanent	Total
Joshua Tree Woodland	**S3**	202.46	24.84	227.30	212.53	26.72	239.25	195.04	23.32	218.36	202.36	24.83	227
California Juniper Woodland	S4	86.48	21.34	107.82	108.85	25.26	134.11	86.48	21.34	107.82	67.44	18.32	85.76
Brittlebush Scrub–Mormon Tea Scrub	S4	51.65	9.89	61.54	60.63	10.99	71.62	51.65	9.89	61.54	3.31	0.79	4.10
Creosote Bush Scrub	S5	41.72	4.33	46.04	51.69	5.80	57.49	37.93	3.99	41.92	41.72	4.33	46.04
California Buckwheat Scrub	S5	34.55	6.20	40.76	37.04	6.54	43.58	10.67	1.69	12.36	32.14	5.72	37.86
Disturbed-Ruderal	—	5.70	1.02	6.71	1.24	0.10	1.34	5.7	1.01	6.71	5.70	1.02	6.71
Cheesebush-Bursage Scrub	S4	4.30	0.87	5.17	3.60	0.75	4.35	—	—	—	4.30	0.87	5.17
Scalebroom Scrub	**S3**	3.85	0.75	4.60	2.13	0.25	2.38	1.86	0.28	2.14	3.40	0.67	4.07
California Buckwheat–Saltbush Scrub	S4	2.01	0.43	2.44	0.98	0.05	1.04	—	—	—	2.01	0.43	2.44
Cheesebush Scrub	S4	0.83	0.004	0.83	0.83	0.004	0.83	0.83	0.004	0.83	0.83	0.004	0.83
Rabbitbrush Scrub	S5	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified – outside project boundary or location not yet identified	—	129.35	23.87	153.22	129.35	23.87	153.22	129.35	23.87	153.22	129.35	23.87	153.22
Total		562.90	93.54	656.43	608.87	100.33	709.21	519.51	85.39	604.90	492.56	80.85	573.20

Joshua Trees and Oaks. No oaks or oak woodlands were identified in the project area during botanical surveys and vegetation mapping; therefore no impacts to oaks would occur. However, Joshua trees are considered sensitive and locally important to Kern County and are afforded protection under the California Desert Native Plants Act. A total of 1,135 Joshua trees meeting the minimum size criteria for "large" trees were mapped during the surveys of AEWP-related impact areas. Large trees were defined as those that are greater than nine (9) feet tall, more than eight (8) feet wide, and include more than seven (7) branchings. Joshua trees are distributed throughout the site, but are most dense in areas mapped as Joshua tree woodlands (see Figures 3.17-3 and 3.17-4). Most of the Joshua tree woodlands mapped for the AEWP occur within the northern and eastern portions of the site and along the transmission line route.

Direct impacts to these four (4) special-status plant species would be mitigated by implementation of Mitigation Measures 4.17-2 (Joshua Tree Preservation Plan; described above) and 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants), which requires focused surveys during the appropriate blooming period for special-status plants, including the listed Bakersfield cactus, within 100 feet of all surface-disturbing activities. Impacts to non-listed special-status plant species shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding with locally collected seed stock. If AEWP activities will result in loss of more than 10 percent (10%) of the known individuals within an existing population of a California Native Plant Society List 1B, 2, 3, or 4 plant species, the project proponent shall preserve existing on- or off-site occupied habitat that is not already part of the public lands in perpetuity at a 1:1 mitigation ratio for non-listed species. All Bakersfield cacti found within the WE-corridor shall be avoided by a buffer of 25 feet through micro-siting activities within the project area. If any Bakersfield cacti cannot feasibly be avoided, those specimens would be translocated in accordance with CDFG guidance and the CDFG Incidental Take Permit and USFWS Biological Opinion (BO). Additionally, impacts to vegetation from fugitive dust and erosion would be mitigated by implementation of Mitigation Measures 4.2-1 (Construction fugitive dust emission reduction) and 4.2-3 (Operation fugitive dust and equipment emissions reduction), which requires measures to minimize dust during construction activities, and 4.19-3 (Drainage design plan), which requires measures to minimize erosion during construction.

State Jurisdictional Areas

Waters of the state regulated under the Porter-Cologne Water Quality Control Act are discussed in Section 4.19 (Water Resources). Ephemeral streams and desert washes that would likely be considered jurisdictional by CDFG under Section 1602 of the California Fish and Game Code were delineated within the survey area; however, no riparian or wetland vegetation is present within the project boundary.

Roughly 42 acres of potentially jurisdictional drainages were delineated on site. Based on the current project design, AEWP features, such as access roads and collector lines, would intersect ephemeral streams in 99 locations, and would result in temporary and permanent impacts to roughly five (5) acres of CDFG-jurisdictional streambeds. Direct impacts would include filling of jurisdictional streambed areas to create road crossings or to construct underground collector lines. Examples of indirect impacts to jurisdictional resources are streambank erosion and stream sedimentation. These jurisdictional areas provide beneficial hydrological functions and services typical of low to moderate disturbance desert scrub systems. These functions include,

but are not limited to, groundwater recharge, flood peak attenuation, floodwater storage, sediment trapping and transport, nutrient trapping, and wildlife habitat. The functions that these jurisdictional areas provide would be impaired by construction and operation of the AEWP.

Given the anticipated impacts to CDFG jurisdictional areas, the project proponent would notify the CDFG if there are proposed impacts to waters of the state and obtain a Streambed Alteration Agreement from the CDFG in accordance with Section 1600 of the California Fish and Game Code. This permit would include mitigation measures that would be implemented by the project proponent. In addition, the project proponent shall follow Best Management Practices when working in or near ephemeral drainages (Mitigation Measure 4.17-4, Best Management Practices for Activities In or Near Ephemeral Drainages). Impacts to state jurisdictional areas would be mitigated by implementation of Mitigation Measure 4.17-4 (Best Management Practices for Activities In or Near Ephemeral Drainages) which includes a number of measures to avoid or minimize impacts to jurisdictional areas, including prohibitions against operating vehicles in ponded or flowing water except as described in the Streambed Authorization Agreement, to avoid placing materials that could contaminate waterways in or near ephemeral drainages, and prohibitions against equipment maintenance within 150 feet of the high water mark for any drainage.

Nonnative and Invasive Weeds

The introduction of nonnative and invasive weed species is a special concern for native plant communities. Nonnative and invasive weeds pose a threat to the natural processes of plant community succession, fire frequency, biological diversity and species composition. Nonnative and invasive weeds can affect the persistence of some populations of special-status species by replacing the foraging base, altering habitat structure, or excluding other plant species by vegetative growth and competition for resources. The potential introduction and/or spread of nonnative and invasive weeds would be greatest during construction activities, but could also occur during operation and maintenance phases of the AEWP. The introduction of nonnative and invasive weeds would be related to ground disturbance from clearing and grading; expansion and construction of access roads; the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed; use of straw bales or wattles that contain seeds of nonnative plant species; and increased use of AEWP access roads during and after construction. Weed seeds are often spread on equipment or clothing by construction or maintenance personnel. This would provide many avenues for new propagules (any part of a plant that may generate a new individual plant) to be carried into areas that previously were isolated from sources of nonnative weed seeds.

Typically in areas where few exotic species occur, the characteristics of the existing topsoil structure, cryptogammic crusts, or the existing native vegetation prevent weed seeds from germinating. Once soil disturbance has occurred, the soil structure or native biotic components are affected such that these factors no longer preclude the establishment of noxious or invasive weeds. Following establishment, new populations of weeds are often extremely difficult to eradicate, especially in arid environments. It may take several years or decades to re-establish the native soil structure and biota.

As many nonnative weeds occurring in southern California are fast-growing plants adapted to high light conditions, the removal of canopy vegetation, either in woodlands or in scrub habitats,

may release weed seeds present in the seed bank from dormancy and allow them to germinate and establish.

Direct impacts associated with the introduction of invasive weeds could occur when these species become established in an area. These invasive plant species can cause a permanent or long-lasting change to the environment by increasing vegetative cover, creating a dense layer that prevents native vegetation from germinating, altering the edaphic and hydrological conditions through nitrogen fixation, or may drain the water table. Native plant populations, including special-status species known to occur within the AEWP site, could be displaced or even locally extirpated if weed infestations occur. Nonnative weeds can create such an unfavorable environment for wildlife that associate, mutualistic species necessary for native plant life cycles, such as seed dispersers, fossorial mammals, or pollinators, are lost from the area. Potential indirect impacts attributed to the colonization of nonnative weeds include a gradual decrease in natural biodiversity as nonnative weed infestations may extirpate native plant populations.

Vehicles are the primary conduits for the spread of many invasive weeds. Construction activities and soil disturbance associated with the AEWP could indirectly introduce new invasive weeds to the AEWP site and could further spread invasive weeds that are already present in the AEWP site. Potential impacts from nonnative and invasive plant species would be mitigated by implementation of Mitigation Measure 4.17-5 (Weed Control Plan) which requires the project proponent to prepare and implement a plan in accordance with BLM policy regarding weeds, to minimize the establishment and spread of nonnative and invasive weed species within the project area during construction and O&M activities.

Local policies or ordinances protecting biological resources

The majority of the AEWP site is located on federal lands managed by the BLM, and as such, local policies and ordinances do not apply to these lands. However, 568 acres within the AEWP site and most of the transmission line route occur on private lands subject to local policies and ordinances. Within these areas, the Kern County General Plan (KCGP) and Zoning Ordinance is applicable. With the implementation of Mitigation Measures 4.17-1 (Habitat Restoration and Revegetation Plan), Mitigation Measure 4.17-2 (Joshua Tree Preservation Plan), 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants), 4.17-4 (Best Management Practices for Activities In or Near Ephemeral Drainages), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (Drainage design plan), the AEWP would not conflict with provisions of the KCGP and Zoning Ordinance with regard to vegetation resources.

The KCGP also contains policies and implementation measures to provide for the conservation of oak trees and oak woodlands. No oaks or oak woodlands were identified in the project area; therefore no impacts to oaks would occur.

A portion of the northern and eastern section of the transmission line route traverses private property within the boundaries of the Mojave Specific Plan. The Mojave Specific Plan requires that biological surveys and evaluations be conducted in areas located outside of previously identified urbanized, non-sensitive areas. If rare, threatened, or endangered species are found during the surveys, the biologist will consult with the CDFG, the USFWS, or other agencies and jurisdictions with authority to implement and enforce requirements of the California or federal

ESA, prior to ground disturbance. As described in Section 3.17 (Vegetation Resources), surveys and assessments conducted in the project area include general reconnaissance surveys, vegetation mapping, and rare plant surveys. All AEWP-specific and reference survey reports are included in Appendix D. In addition, the project proponent would conduct focused surveys for special-status plants prior to construction (Mitigation Measure 4.17-3). The project proponent would avoid impacts to the state and federally listed endangered Bakersfield cactus known to occur on site, unless otherwise authorized through a 2081 take permit from CDFG and/or a Biological opinion from the USFWS.

With the implementation of mitigation measures, the AEWP would not conflict with any local policies or ordinances protecting biological resources.

4.17.3.2 Operation and Maintenance

Operation and maintenance activities associated with the AEWP would result in direct temporary and permanent losses of native vegetation if vegetation clearing, grading, or other surface disturbance (e.g., driving over vegetation) is needed during O&M activities, such as grading of access roads or repair of WTGs. O&M activities also would affect special-status plant species if these species occur in areas where temporary impacts associated with O&M activities would occur. Use of access roads during O&M activities for the AEWP could result in indirect impacts to vegetation communities and special-status plants as a result of fugitive dust, although fugitive dust impacts would be of a lower magnitude during this phase given the reduced number of vehicle trips and the reduced amount of ground disturbance (such as grading) compared to the construction phase. O&M activities would result in impacts to state jurisdictional areas if temporary impacts associated with O&M occur in areas that fall under the jurisdiction of the CDFG, such as the repair of road crossings along jurisdictional drainages. Jurisdictional impacts associated with O&M activities would be addressed through a separate permitting process with the CDFG. O&M activities associated with the AEWP also could indirectly introduce new invasive weeds to the AEWP site and could further spread invasive weeds that are already present in the AEWP site. Similar to construction, impacts from fugitive dust associated with AEWP operation and maintenance would be mitigated by implementation of Mitigation Measures 4.2-3 (Operation fugitive dust and equipment emissions reduction), and potential impacts from invasive plant species would be mitigated by implementation of Mitigation Measure 4.17-5 (Weed Control Plan).

As described above for construction, impacts to sensitive vegetation communities would be mitigated by implementation of Mitigation Measures 4.17-1 (Habitat Restoration and Revegetation Plan) and 4.17-2 (Joshua Tree Preservation Plan).

As described above for construction, impacts to special-status plant species would be mitigated by implementation of 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants). Impacts to jurisdictional areas would require permits from the appropriate agencies that would include mitigation measures to minimize impacts. In addition, the project proponent shall follow Best Management Practices when working in or near ephemeral drainages (Mitigation Measure 4.17-4, Best Management Practices for Activities In or Near Ephemeral Drainages). Potential impacts from invasive plant species would be mitigated by implementation of Mitigation Measure 4.17-5 (Weed Control Plan).

4.17.3.4 Decommissioning

Decommissioning activities associated with the AEWP would result in direct and indirect temporary and permanent impacts to sensitive vegetation communities from vegetation clearing, grading, or other surface disturbance. Examples of effects to sensitive vegetation communities during decommissioning would include widening of access roads and/or clearing for staging areas. It is expected that the impacts during decommissioning would occur in the same locations as the temporary impact areas used during construction of the AEWP. Decommissioning includes revegetation/restoration of the AEWP site. Decommissioning activities also would affect special-status plant species if these species occur in decommissioning impact areas. Decommissioning activities would result in impacts to state jurisdictional areas if impacts associated with decommissioning occur in areas that fall under the jurisdiction of the CDFG, such as ephemeral drainages. Decommissioning could also result in the introduction or spread of invasive weeds if seed is introduced from vehicles or construction equipment. As described above for construction, these impacts to vegetation resources would be mitigated by implementation of Mitigation Measures Mitigation Measures 4.17-1 (Habitat Restoration and Revegetation Plan), Mitigation Measure 4.17-2 (Joshua Tree Preservation Plan), 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants), 4.17-4 (Best Management Practices for Activities In or Near Ephemeral Drainages), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (Drainage design plan).

4.17.3.5 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.17.2. Only those significance criteria which were determined in Section 4.17.2 to be relevant to the AEWP are addressed below. Table 4.17-2 provides a summary of the significance determinations for vegetation resources for Alternative A.

Table 4.17-2. Summary of CEQA Significance Determinations for Alternative A: Project

Category	Construction Impacts	O&M Impacts	Decommissioning Impacts[1]	Cumulative Impacts
Native Vegetation Communities	LTS	LTS	LTS	SU
Bakersfield Cactus	LTS	LTS	LTS	SU
Pale-Yellow Layia	LTS	LTS	LTS	SU
Adobe Yampah	LTS	LTS	LTS	SU
Joshua Trees	LTS	LTS	LTS	SU
Oak Trees	NI	NI	NI	NI
State-Jurisdictional Areas	LTS	LTS	LTS	SU
Nonnative and Invasive Weeds	LTS	LTS	LTS	SU
Local Policies Protecting Biological Resources	LTS	LTS	LTS	LTS

1 – Decommissioning impacts are generally assumed to be equivalent to construction impacts
NI – No impact
LTS – Less than significant impact with mitigation incorporated
SU – Significant and unavoidable impact

Construction

- **VG-1 (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce construction-related impacts to special-status plants to less than significant under Criterion VG-1.
- **VG-2 (Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce construction-related impacts to sensitive natural communities and CDFG jurisdictional areas to less than significant under Criterion VG-2.
- **VG-4 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce construction-related conflicts with local policies and ordinances to less than significant under Criterion VG-4.

Operation and Maintenance

- **VG-1** (**Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce O&M impacts to special-status plants to less than significant under Criterion VG-1.

  VG-2 (Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS). Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce O&M impacts to sensitive natural communities and CDFG jurisdictional areas to less than significant under Criterion VG-2.
- **VG-4 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would

reduce O&M conflicts with local policies and ordinances to less than significant under Criterion VG-4.

Decommissioning

- **VG-1** (**Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce decommissioning impacts to special-status plants to less than significant under Criterion VG-1.
- **VG-2 (Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce decommissioning impacts to sensitive natural communities and CDFG jurisdictional areas to less than significant under Criterion VG-2.
- **VG-4 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce decommissioning conflicts with local policies and ordinances to less than significant under Criterion VG-4.

4.17.4 Alternative B: Revised Site Layout

4.17.4.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts included below covers construction, O&M, and decommissioning of Alternative B.

4.17.4.2 Construction

Vegetation Communities

Construction activities associated with Alternative B would result in direct temporary and permanent losses of native vegetation and indirect effects resulting from vegetation clearing, grading, or other surface disturbance. Alternative B also would affect special-status plant species and state jurisdictional areas.

The total area estimated for use by Alternative B (including short-term disturbance) is exactly the same as Alternative A, but a number of WTGs would be relocated and associated access roads would be rerouted. Therefore, total impacts would be 609 acres of temporary and 100 acres of permanent disturbance. Because of the revised site layout and slight increase in the length of on-site access roads, impacts to the various vegetation communities on site would be slightly

different for Alternative B (Table 4.17-1); however, the same vegetation types as for Alternative A would be impacted by Alternative B.

Alternative B would result in direct impacts to the following sensitive vegetation communities: 239.3 acres of Joshua tree woodland and 2.4 acres of scalebroom scrub. The nature of these impacts is similar to Alternative A, but Alternative B would increase the impacts to Joshua tree woodland by approximately 12 acres as compared to Alternative A, and would decrease the impacts to scalebroom scrub by approximately 2 acres as compared to alternative A. Under Alternative B, there would be a net increase of approximately 10 acres in impacts to sensitive vegetation communities, as compared to Alternative A.

Ground disturbance including grading as well as construction traffic along dirt access roads associated with Alternative B would result in increased fugitive dust. Dust can have deleterious physiological effects on plants and may affect their productivity and nutritional qualities. In addition, construction activities associated with Alternative B could result in increased erosion, which can accelerate the loss of nutrients in the soil and reduce the amount of nutrients available to plants. The nature and magnitude of these impacts would be the same as that described for Alternative A.

Mitigation for construction activities would be the same as for Alternative A.

Special-Status Plant Species

Alternative B is anticipated to result in impacts to individuals or populations of three (3) special-status plant species observed within the botanical survey area: Bakersfield cactus, pale-yellow layia, and adobe yampah. Joshua trees, considered sensitive by the County, would also be impacted. Overall, the nature of impacts associated with Alternative B would be similar to those described for Alternative A.

Activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would also result in indirect impacts to special-status plant species from increased levels of dust that may settle on the plants. Increased levels of dust on plants can affect plants' photosynthetic capabilities, affect their productivity and nutritional qualities, and degrade the overall vegetation community. Increased erosion could also impact individual special-status plants or entire populations, depending on the extent of erosion. Mitigation for construction activities would be the same as for Alternative A.

State Jurisdictional Areas

Alternative B would result in temporary and permanent impacts to approximately 5.4 acres of CDFG jurisdictional areas (ephemeral streams and drainages). The nature of these impacts is similar to that described for Alternative A. Mitigation for construction activities would be the same as for Alternative A.

Nonnative and Invasive Weeds

Alternative B would include slightly more amount of disturbance and the same types of construction activities as Alternative A. Impacts related to the potential introduction and spread of nonnative and invasive weeds would be the same as described for Alternative A. Mitigation for construction activities would also be the same as for Alternative A.

Local policies or ordinances protecting biological resources

Alternative B would include slightly more disturbance and the same types of construction activities as Alternative A. Impacts related to local policies and ordinances protecting biological resources would be the same as described for Alternative A. Mitigation for construction activities would also be the same as for Alternative A.

4.17.4.3 Operation and Maintenance

The O&M impacts for Alternative B would be the same as those described for Alternative A. Mitigation for O&M activities would be the same as for Alternative A.

4.17.4.4 Decommissioning

Decommissioning activities associated with Alternative B would result in direct and indirect temporary and permanent losses of sensitive vegetation and direct effects resulting from vegetation clearing, grading, or other surface disturbance on a scale similar to decommissioning of Alternative A. Mitigation for decommissioning activities would be the same as for Alternative A.

4.17.4.5 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The CEQA determinations for construction, O&M, and decommissioning for Alternative B would be the same as for Alternative A.

4.17.5 Alternative C: Reduced Project North

4.17.5.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts included below covers construction, O&M, and decommissioning of Alternative C.

Construction

Vegetation Communities

Construction activities associated with Alternative C would result in direct temporary and permanent losses of native vegetation and indirect effects resulting from vegetation clearing, grading, or other surface disturbance. The total area estimated for use by Alternative C (including short-term disturbance) is less than Alternative A. Total impacts would be 520 acres of temporary and 85 acres of permanent disturbance. Alternative C would result in direct impacts to eight (8) of the 11 vegetation communities and land cover types mapped within the AEWP site and transmission line route (Table 4.17-1). Compared with Alternative A, Alternative C would avoid impacts to cheesebush-bursage scrub and California buckwheat-saltbush scrub.

Alternative C would result in direct impacts to the following sensitive vegetation communities: 218.4 acres of Joshua tree woodland and 2.1 acres of scalebroom scrub. The nature of these impacts is similar to Alternative A, but Alternative C would decrease the impacts to sensitive vegetation communities by approximately 11.4 acres relative to Alternative A.

Ground disturbance including grading as well as construction traffic along dirt access roads associated with Alternative C would result in increased fugitive dust. Dust can have deleterious

physiological effects on plants and may affect their productivity and nutritional qualities. In addition, construction activities associated with Alternative C could result in increased erosion, which can accelerate the loss of nutrients in the soil and reduce the amount of nutrients available to plants. The nature of these impacts would be the same as that described for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative C.

Mitigation for construction activities would be the same as for Alternative A.

Special-Status Plant Species

Alternative C is anticipated to result in impacts to individuals or populations of three (3) special-status plant species observed within the botanical survey area: Bakersfield cactus, pale-yellow layia, and adobe yampah. Joshua trees, considered sensitive by the County, would also be impacted. Overall, the nature of impacts associated with Alternative C would be similar to those described for Alternative A, but the magnitude would be reduced because of the reduced project size. In particular, impacts to Bakersfield cactus, which were mapped primarily in the northern portion of the AEWP site, would be greatly reduced with the elimination of the northern parcel under Alternative C.

Activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would also result in indirect impacts to special-status plant species from increased levels of dust that may settle on the plants. Increased levels of dust on plants can affect plants' photosynthetic capabilities, affect their productivity and nutritional qualities, and degrade the overall vegetation community. Increased erosion could also impact individual special-status plants or entire populations, depending on the extent of erosion. Mitigation for construction activities would be the same as for Alternative A.

State Jurisdictional Areas

Alternative C would result in temporary and permanent impacts to 4.5 acres of CDFG jurisdictional areas (ephemeral streams and drainages). The nature of these impacts is slightly less than those described for Alternative A above. Mitigation for construction activities would be the same as for Alternative A.

Nonnative and Invasive Weeds

Alternative C would include the same types of construction activities as Alternative A, but the amount and duration of disturbance would be reduced in proportion to the reduction in project size for Alternative C. The nature of impacts related to the potential introduction and spread of nonnative and invasive weeds would be the same as described for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative C. Mitigation for construction activities would be the same as for Alternative A.

Local policies or ordinances protecting biological resources

Alternative C would include the same types of construction activities as Alternative A, but the amount and duration of disturbance would be reduced in proportion to the reduction in project size for Alternative C. The nature of impacts related to local policies and ordinances protecting biological resources would be the same as described for Alternative A. Mitigation for construction activities would also be the same as for Alternative A.

Operation and Maintenance

The O&M impacts for Alternative C would be the same as those described for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size associated with Alternative C. Mitigation for O&M activities would be the same as for Alternative A.

Decommissioning

Decommissioning activities associated with Alternative C would result in direct and indirect effects similar to decommissioning of Alternative A, but the magnitude would be reduced in proportion to the reduction in project size associated with Alternative C. Mitigation for decommissioning activities would be the same as for Alternative A.

4.17.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Impacts to vegetation resources would generally be slightly decreased under Alternative C when compared to Alternative A, in proportion to the reduction in size of this alternative. With the implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan), the CEQA significance determinations for impacts to vegetation resources for Alternative C would be identical to those described above for Alternative A.

4.17.6 Alternative D: Reduced Project Southwest

4.17.6.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts included below covers construction, O&M, and decommissioning of Alternative D.

Construction

Vegetation Communities

Construction activities associated with Alternative D would result in direct temporary and permanent losses of native vegetation and indirect effects resulting from vegetation clearing, grading, or other surface disturbance. Alternative D also would affect special-status plant species and state jurisdictional areas.

The total area estimated for use by Alternative D (including short-term disturbance) is less than Alternative A. Total impacts would be 493 acres of temporary and 81 acres of permanent disturbance. Alternative D would result in direct impacts to the same vegetation communities and land cover types mapped within the AEWP site and transmission line route as Alternative A (Table 4.17-1).

Alternative D would result in direct impacts to the following sensitive vegetation communities: 227 acres of Joshua tree woodland and 4 acres of scalebroom scrub. The nature of these impacts is similar to Alternative A, but Alternative D would decrease the impacts to sensitive vegetation communities by approximately 0.8 acres as compared to Alternative A.

Ground disturbance including grading as well as construction traffic along dirt access roads associated with Alternative D would result in increased fugitive dust. Dust can have deleterious

physiological effects on plants and may affect their productivity and nutritional qualities. In addition, construction activities associated with Alternative D could result in increased erosion, which can accelerate the loss of nutrients in the soil and reduce the amount of nutrients available to plants. The nature of these impacts would be the same as that described for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative D.

Mitigation for construction activities would be the same as for Alternative A.

Special-Status Plant Species

Alternative D is anticipated to result in impacts to individuals or populations of three (3) special-status plant species observed within the botanical survey area: Bakersfield cactus, pale-yellow layia, and adobe yampah. Joshua trees, considered sensitive by Kern County, would also be impacted. Overall, the nature of impacts associated with Alternative D would be similar to those described for Alternative A, but the magnitude would be reduced because of the reduced project size.

Activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would also result in indirect impacts to special-status plant species from increased levels of dust that may settle on the plants. Increased levels of dust on plants can affect plants' photosynthetic capabilities, affect their productivity and nutritional qualities, and degrade the overall vegetation community. Increased erosion could also impact individual special-status plants or entire populations, depending on the extent of erosion. Mitigation for construction activities would be the same as for Alternative A.

State Jurisdictional Areas

Alternative D would result in temporary and permanent impacts to 4.9 acres of CDFG jurisdictional areas (ephemeral streams and drainages). The nature of these impacts is similar to that described for Alternative A. Mitigation for construction activities would be the same as for Alternative A.

Nonnative and Invasive Weeds

Alternative D would include the same types of construction activities as Alternative A, but the amount and duration of disturbance would be reduced in proportion to the reduction in project size for Alternative D. The nature of impacts related to the potential introduction and spread of nonnative and invasive weeds would be the same as described for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative D. Mitigation for construction activities would be the same as for Alternative A.

Local policies or ordinances protecting biological resources

Alternative D would include the same types of construction activities as Alternative A, but the amount and duration of disturbance would be reduced in proportion to the reduction in project size for Alternative D. The nature of impacts related to local policies and ordinances protecting biological resources would be the same as described for Alternative A. Mitigation for construction activities would also be the same as for Alternative A.

Operation and Maintenance

The O&M impacts associated with Alternative D would be the same as those described for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size associated with Alternative D. Mitigation for O&M activities would be the same as for Alternative A.

Decommissioning

Decommissioning activities associated with Alternative D would result in direct and indirect effects similar to decommissioning of Alternative A, but the magnitude would be reduced in proportion to the reduction in project size associated with Alternative D. Mitigation for decommissioning activities would be the same as for Alternative A.

4.17.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Impacts to vegetation resources would generally be slightly decreased under Alternative D when compared to Alternative A, in proportion to the reduction in size of this alternative. With the implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan), the CEQA significance determinations for impacts to vegetation resources for Alternative D would be identical to those described above for Alternative A.

4.17.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.17.7.1 Direct and Indirect Impacts

Under Alternative E (No Issuance of a ROW Grant or County Approval; No LUP Amendment) to the AEWP, no action would occur and existing conditions relevant to vegetation resources would continue. No impacts associated with the AEWP would occur.

4.17.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

Alternative E to the AEWP would result in no impacts to vegetation resources.

4.17.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.17.8.1 Direct and Indirect Impacts

Under Alternative F (No Issuance of a ROW Grant or County Approval; Approval of a LUP Amendment to find the site as unsuitable for Wind Energy Development), no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to biological resources would continue. No impacts associated with the AEWP would occur under Alternative F.

4.17.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F to the AEWP would result in no impacts to vegetation resources.

4.17.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

4.17.9.1 Direct and Indirect Impacts

Under Alternative G (No Issuance of a ROW Grant or County Approval; Approval of a LUP Amendment to find the site to be suitable for Wind Energy Development), no action would occur but future development of the site for wind energy could occur. Existing conditions relevant to biological resources would continue, but may be altered at some point in the future by construction of a potential wind energy development similar to the Proposed Action. No impacts associated with the AEWP would occur under Alternative G. Impacts to vegetation resources similar to those described for Alternative A could occur related to some future proposed action, but the specific types and magnitudes of impacts cannot be determined at this time.

4.17.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

Alternative G to the AEWP would result in no impacts to vegetation resources from the AEWP, but may result in future impacts similar to those described for Alternative A. However, the specific types and magnitudes of impacts cannot be determined at this time as no such future action has been proposed, and therefore no CEQA significance determinations can be made.

4.17.10 Cumulative Impacts

4.17.10.1 Geographic Extent/Context

The geographic scope for the analysis of cumulative impacts related to sensitive vegetative resources includes the vicinity of all reasonably foreseeable cumulative projects and extends throughout the western Mojave Desert and Tehachapi and Piute Mountains ~~including the Tehachapi Wind Resource Area (TWRA)~~, as shown in Figure 4.1-1. The AEWP is located within or adjacent to federal and private lands that support native vegetation communities and are largely undeveloped or support wind energy developments. The following are areas of biological significance that have potential to be affected by the AEWP, where they occur in proximity to the proposed project:

- California Desert Conservation Area/West Mojave Plan Area
- BLM Limited Use Lands
- Middle Knob and Horse Canyon Areas of Critical Environmental Concern (ACECs)

The analysis of cumulative effects considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resources being evaluated. The geographic scope of this analysis is based on the nature of the geography surrounding the AEWP and the characteristics and properties of each resource. In addition, each project will have its own implementation schedule, which may or may not coincide or overlap with the AEWP's schedule. This is a consideration for short-term impacts from the AEWP. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the AEWP, except where otherwise noted.

Cumulative impacts would occur if the AEWP, combined with the reasonably foreseeable cumulative projects in the vicinity, would result in: (1) Native vegetation communities becoming limited in extent within the cumulative analysis area, or if the compensation requirements for those impacts cannot be achieved; (2) Special-status plant species becoming limited in their distribution or population size within the cumulative analysis area, or if the compensation requirements for those impacts cannot be achieved; (3) Jurisdictional resources becoming limited in extent within the cumulative analysis area, or if the compensation requirements for those impacts cannot be achieved; (4) Introduction or spread of invasive weed species across the cumulative analysis area; (5) Increased levels of dust settling on vegetation and special-status plant species throughout the cumulative analysis area.

4.17.10.2 Existing Cumulative Conditions

Numerous existing wind developments occur in the vicinity of the AEWP, and scattered residential, commercial, and industrial developments including operating mines occur as well. Livestock grazing is common throughout the area. Areas to the south in Los Angeles County, such as Lancaster and Palmdale, are experiencing rapid urbanization. Urbanization, population growth, and continuing development pressure particularly in the Antelope Valley portion of the western Mojave Desert in Kern and Los Angeles Counties have brought about substantial changes to, and effects on, natural resources. Consequently, modification, alteration, and/or destruction of vegetation, special-status plant species, state jurisdictional areas, and the proliferation of invasive weeds are occurring throughout the region. Future growth and development in the analysis area will likely continue these impacts.

Vegetation communities are largely similar in the analysis area and consist primarily of a variety of desert scrubs at lower elevations and Joshua tree and California juniper woodlands, montane scrubs, and oak and pine woodlands at higher elevations. Annual grasslands occur interspersed throughout these communities, and livestock grazing is prevalent in the region.

Since much of the analysis area consists of desert land, there are few wetlands present (and none within the project boundary); however, CDFG jurisdictional drainages occur throughout the analysis area, as they do on the AEWP site.

The AEWP site supports special-status plant species, including the federal and state-listed Bakersfield cactus. The majority of the cumulative impacts analysis area supports undeveloped lands, and these surrounding areas support populations of the same special-status plant species found on the AEWP site as well as additional species identified as having a moderate or high potential to occur in Table 3.17-3, located in Section 3.17 (Vegetation Resources).

Invasive weeds are present throughout the analysis area, although their numbers vary depending on the level of land disturbance. Weeds ranked as having a high level of invasiveness, including

red brome and cheat grass (see table 3.17-2), were found to be abundant throughout the AEWP site, and are widespread and abundant in the general region.

4.17.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects; various BLM-authorized actions/activities; proposed or approved projects within the counties' jurisdictions; and other actions/activities that Lead Agencies consider reasonably foreseeable. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this Draft Plan Amendment, Draft Environmental Impact Statement/ Environmental Impact Report (Draft PA, Draft EIS/EIR). Because the geographic area of effect for cumulative impacts to vegetation resources includes the entire region, all projects presented in Table 4.1-1 are considered in the analysis of cumulative effects for the AEWP.

There are five (5) other projects in very close proximity to the AEWP that would result in impacts to vegetation and potentially state jurisdictional areas and special-status plant species. These projects also could result in the introduction or spread of invasive weeds. These projects include (Table 4.1-1; Figure 4.1-1):

- 2,746-acre Rising Tree Wind Energy Project,
- 9,780-acre Alta Infill II Wind Project,
- 237-acre solar energy development proposed by The Aeromen LLC; and
- Two (2) residential and commercial zone-change applications on 50 and 510 acres.

Also of particular note are development projects proposed on large tracts of land, which have the potential to reduce or eliminate large areas of native vegetation. Large-scale development projects in the vicinity of the AEWP site include several large proposed wind and solar developments (e.g., the 9,780-acre Alta Infill II Wind Project; 2,422-acre PdV Infill Project; 8,300-acre Pacific Wind Energy Project; 1,325-acre Pacific Wind Infill Project; 1,007-acre Windstar Energy Project; 4,782-acre Antelope Valley Solar Project, etc.). Many of these projects would cause losses to native vegetation communities, special-status plant species, and jurisdictional resources.

4.17.10.4 Construction, O&M, and Decommissioning

AEWP-related construction, O&M, and decommissioning activities would result in temporary and permanent losses of native vegetation. Despite mitigation measures, as listed above, which would protect vegetation and remediate AEWP-related losses to a less-than-significant level, construction of the AEWP would cause both temporary (during construction from vegetation clearing) and permanent (replacement of vegetation with project features such as WTGs and permanent access roads) impacts to vegetation communities as described in Section 4.17.3.1. Most of the projects identified in Table 4.1-1 would also result in temporary and permanent losses of vegetation communities, special-status plant species, and jurisdictional resources through grading and clearing activities to construct roads; utility infrastructure; and commercial, industrial, and residential developments. Quantitative impact information for these resources is not available at this time for many of these projects. For most of the cumulative projects where

quantitative information is available, only the total acreage of the project is available, and is presented in Table 4.1-1. Quantification of total cumulative impacts to different vegetation communities is not possible. However, many of the reasonably foreseeable projects within the cumulative impacts analysis area would likely impact the same types of vegetation communities as the AEWP. Permanent losses and temporary impacts to vegetation associated with the AEWP combined with losses associated with past, present, and future projects are considered a cumulative impact because these combined impacts have potential to reduce the extent of those communities within the cumulative impacts analysis area. For this reason, the cumulative impact would be considered significant under CEQA. The AEWP and the other cumulative projects would be required to mitigate impacts to sensitive vegetation communities, and a sufficient amount of land is available to provide compensation for those projects' impacts. Implementation of Mitigation Measures 4.17-1 and 4.17-2, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan), would minimize and compensate for the AEWP's impacts to sensitive vegetation communities. Other reasonably foreseeable projects would likely have similar mitigation requirements, but considered cumulatively on a region-wide scale, impacts to vegetation communities would remain significant and unavoidable under CEQA.

Impacts to three (3) special-status plant species (Bakersfield cactus, pale-yellow layia, and adobe yampah) and one (1) species considered sensitive by the County (Joshua tree) would result from AEWP construction and, possibly, decommissioning. The various reasonably foreseeable projects within the cumulative impacts analysis area would likely impact the same special-status plant species, including Bakersfield cactus, pale-yellow layia, adobe yampah, and Joshua trees. Impacts to special-status plant species associated with the AEWP, combined with losses of plants and habitat associated with past, present, and future projects are considered a cumulative impact because these combined impacts have potential to reduce the population sizes of those special-status plant species within the cumulative impacts analysis area. For this reason, the cumulative impact would be considered significant under CEQA. Mitigation Measure 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants) includes avoidance, restoration, and compensation for impacts to special-status and locally sensitive plant species. It is expected that the other reasonably foreseeable projects in the cumulative impacts analysis area would include similar mitigation measures to mitigate those projects' impacts to special-status and locally sensitive plant species. However, when considered cumulatively on a region-wide scale, impacts to special-status plants would remain significant and unavoidable under CEQA.

Construction and, possibly, decommissioning activities would result in impacts to CDFG-jurisdictional features through vegetation removal and placement of fill. Despite measures to protect jurisdictional resources and remediate losses, construction of the AEWP would cause both temporary and permanent impacts to jurisdictional features as described in Section 4.17.3.1. The reasonably foreseeable projects within the cumulative impacts analysis area would likely impact the same types of CDFG-jurisdictional resources as the AEWP. Impacts to CDFG- jurisdictional resources associated with the AEWP, combined with impacts associated with past, present, and future projects are considered a cumulative impact because the impacts have a potential to reduce the extent of those jurisdictional resources within the cumulative impacts analysis area. For this reason, the cumulative impact would be considered significant under CEQA. The magnitude of the cumulative impact to jurisdictional features is small given that there are tens of thousands of acres of jurisdictional habitats within the cumulative impacts analysis area. The AEWP site's permanent impacts to CDFG jurisdictional areas amounts to less than 0.1 percent of the jurisdic-

tional habitats in the cumulative impacts analysis area. While quantitative data on the extent of impacts to jurisdictional resources in the cumulative analysis area is not available, most of the projects in the cumulative scenario occur on similar types of habitats as the Proposed Action (arid foothills and desert flats with primarily small ephemeral washes) and are expected to impact a similarly small amount of jurisdictional habitats. Implementation of Mitigation Measure 4.17-4 (Best Management Practices for Activities In or Near Ephemeral Drainages), which includes a number of measures to avoid or minimize impacts to jurisdictional areas, would offset the potential impacts to jurisdictional areas for the AEWP. It is expected that the other reasonably foreseeable projects in the cumulative impacts analysis area would include similar mitigation measures to mitigate those projects' impacts to jurisdictional areas. However, jurisdictional habitats are limited in the western Mojave Desert and arid foothills of the Tehachapi Mountains, and when considered cumulatively on a region-wide scale, impacts to jurisdictional areas would remain significant and unavoidable under CEQA.

AEWP construction, O&M, and decommissioning activities would result in ground disturbance which has the potential to result in the introduction or spread of invasive weed species. Invasive weed species exist within the cumulative impacts analysis area as a result of natural events such as wildfires, as well as from past and ongoing residential, commercial, and industrial development and land uses such as livestock grazing and off-highway vehicle use. The AEWP and the reasonably foreseeable projects within the cumulative impacts analysis area have the potential to introduce or spread invasive weed species throughout the cumulative impacts analysis area. For this reason, the impact is considered significant under CEQA. The AEWP and the majority of the other reasonably foreseeable projects would be required to mitigate impacts associated with invasive weed species through the preparation and implementation of Weed Management Plans and Weed Control Plans. Implementation of Mitigation Measure 4.17-5 (Weed Control Plan), which requires the project proponent to prepare and implement a plan in accordance with BLM policy regarding weeds to minimize the establishment and spread of nonnative and invasive weed species within the project area during construction and O&M activities, would offset the potential impacts associated with the introduction and spread of invasive weed species for the AEWP. However, when considered cumulatively on a region-wide scale, impacts related to the introduction and spread of invasive weeds would remain significant and unavoidable under CEQA.

AEWP construction, O&M, and decommissioning activities could result in increased levels of airborne dust that may settle on surrounding vegetation, as well as soil erosion. Increased levels of dust on plants can significantly impede the plants' photosynthetic capabilities and degrade the overall vegetation community. Soil erosion can accelerate the loss of nutrients in the soil and reduce the amount of nutrients available to plants in those vegetation communities. The reasonably foreseeable projects within the cumulative impacts analysis area also have the potential to result in increased levels of airborne dust and soil erosion. Impacts associated with fugitive dust and soil erosion from the AEWP, combined with impacts associated with past, present, and future projects, would be considered a significant cumulative impact if all of the projects were constructed at the same time. The AEWP and the reasonably foreseeable projects would be required to mitigate impacts associated with fugitive dust and soil erosion through the preparation and implementation of Dust Control Plans and Stormwater Pollution Prevention Plans (SWPPPs), which include regular watering of access roads, staging areas, and other temporary use areas during clearing, grading, earth-moving, excavation, or other construction activities and establishing a maximum speed limit on dirt access roads to reduce the amount of

airborne dust generated. Implementation of 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (Drainage design plan) would offset the potential impacts associated with airborne dust and soil erosion for the AEWP. However, should the construction schedules of a number of large development projects proposed in the region overlap with the AEWP, impacts would be significant and unavoidable under CEQA.

4.17.10.5 CEQA Significance and Impact Determinations, Cumulative

Construction, Operation and Maintenance, Decommissioning

- **VG-1 (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce AEWP-related impacts to special-status plants to less than significant under Criterion VG-1. However, AEWP-related construction, O&M, and decommissioning activities would result in temporary and permanent losses of native vegetation. Permanent losses and temporary impacts to vegetation associated with the AEWP combined with losses associated with past, present, and future projects are considered a cumulative impact because these combined impacts have potential to reduce the extent of those communities within the cumulative impacts analysis area. Therefore, impacts are considered significant and unavoidable.
- **VG-2 (Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce AEWP-related impacts to ~~special-status plants~~ riparian habitat or other sensitive natural communities to less than significant under Criterion VG-2~~1~~. However, AEWP-related construction, O&M, and decommissioning activities would result in temporary and permanent losses of native vegetation. Permanent losses and temporary impacts to vegetation associated with the AEWP combined with losses associated with past, present, and future projects are considered a cumulative impact because these combined impacts have potential to reduce the extent of those communities within the cumulative impacts analysis area. Therefore, impacts are considered significant and unavoidable.
- **VG-4 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.17-1 through 4.17-5, 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan) would reduce AEWP-related conflicts with local policies and ordinances to less than significant under Criterion VG-4. The AEWP would be constructed in compliance with all applicable local policies and ordinances protecting biological resources. Therefore, impacts from the AEWP

are not expected to contribute to any cumulative impacts from other projects and impacts are considered to be less than significant.

4.17.11 Mitigation Measures

The AEWP will require incidental take authorization for impacts to listed species through a Biological Opinion (BO) from the USFWS and a 2081 Incidental Take Permit (ITP) from CDFG. The terms and conditions of these authorizations will supersede the mitigation measures identified below. For items that are addressed in the mitigation measures identified below as well as provisions of the BO and/or ITP, the most conservative measure will apply (for example, the highest mitigation ratio would apply). Nonetheless, in compliance with the requirements identified in CEQA, the project proponent will be required to comply with the reporting and documentation standards addressed in the mitigation measures ultimately approved by the Lead Agencies.

MM 4.17-1 **Habitat Restoration and Revegetation Plan.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed by the BLM, the project proponent shall develop and submit a *Habitat Restoration and Revegetation Plan* to the Kern County Planning and Community Development Department and the Bureau of Land Management for review. The Plan shall be reviewed by the BLM to ensure appropriate compliance with the requirements of NEPA. The Plan shall include provisions for the following:

1. Restoration of all areas temporarily disturbed by project construction to pre-construction conditions; including temporary disturbance areas around structure construction sites, laydown/staging areas, and temporary access roads.
2. Provisions which show that work areas (including, but not limited to, staging areas, access roads, and sites for temporary placement of construction materials and soils) will be delineated with orange construction fencing or staking to clearly identify the limits of work. Fencing/staking shall remain in place for the duration of construction. Soils shall be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor. To the extent possible, disturbance of shrubs and surface soils due to stockpiling shall be minimized. All disturbances, vehicles, and equipment shall be confined to the flagged areas.
3. All grading activities shall include topsoil salvage. Topsoil shall be removed, stockpiled on-site, and returned to the original site or used in habitat restoration activities elsewhere on the site.
4. Hydroseeding, drill seeding, broadcast seeding or an otherwise proven restoration technique shall be utilized on all disturbed surfaces using a locally endemic native seed mix approved by the Bureau of Land Management and Kern County Engineering, Surveying and Permit Services Department.
5. The plan shall include the Best Management Practices identified in the California Department of Fish and Game Streambed Alteration Agreement, if applicable.
6. For any permanent loss of desert wash and riparian habitat, the project proponent shall mitigate at a minimum of 3:1 or as identified in the California Department of Fish and Game Streambed Alteration Agreement. All other native habitats shall be mitigated at a 1:1 ratio for permanent impacts, or as otherwise identified in the California Department of Fish and Game Incidental Take Permit or United States

Fish and Wildlife Biological Opinion. Permanent impacts to ruderal or disturbed habitats shall be mitigated at a 1:1 ratio if those habitats support burrowing owl and/or desert tortoise. Permanent impacts shall be mitigated through one or more of the following:

a. Through a conservation easement in perpetuity, or through acquisition and conservation in perpetuity of off-site lands which support comparable habitats and species. Restoration and/or enhancement/re-vegetation shall be conducted on mitigation lands as necessary to achieve a functional value comparable to habitats impacted by the project.

   To utilize this option, the project proponent shall acquire one of the following prior to the issuance of grading permits that would result in the disturbance of such lands: Transfer fee title to the compensation lands; a conservation easement over the lands; or both fee title and conservation easement, as required by the BLM, the Kern County Planning and Community Development Department and any other applicable agencies (such as the USFWS and/or CDFG). Any future transfer of a conservation easement or fee title must be approved by the BLM and the Kern County Planning and Community Development Department; and be made to one of the following: the CDFG, a non-profit organization qualified to hold title to and manage compensation lands (pursuant to California Government Code section 65965), the BLM, or other approved public agency. If an approved non-profit organization holds fee title to the compensation lands, a conservation easement will be recorded in favor of CDFG or another entity approved by the BLM and Kern County Planning and Community Development Department. If an entity other than CDFG holds a conservation easement over the compensation lands, the BLM and Kern County Planning and Community Development Department may require that CDFG or another entity approved by the BLM and Kern County Planning and Community Development Department, in consultation with CDFG, be named a third party beneficiary of the conservation easement.

b. Onsite restoration, enhancement, and management (i.e., weed control, etc.) of disturbed areas not impacted by project construction.

c. Mitigation banking.

7. The Plan developed shall establish performance criteria and time frames for restoration of the site in addition to provisions for a monitoring program to assess the success of restoration efforts. The monitoring program will clearly identify the minimum length of the monitoring period, maintenance of restoration sites during the monitoring period, and replacement conditions. Any sites that do not meet the performance criteria within the specified time frames shall be mitigated as permanent impacts as described above.

8. The Plan shall be developed and implemented to preserve native shrub communities to the maximum extent feasible.

MM 4.17-2 **Joshua Tree Preservation Plan.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed by the BLM, the project proponent shall develop and submit a *Joshua Tree Preservation Plan* to the Kern County Planning and Community Development Department for review. The Plan shall be prepared by a qualified biologist or botanist and shall include provisions for the following:

1. Documentation of the location and acreage of Joshua tree woodland that would be subject to permanent disturbance and a description of the field methods used to delineate acreage of Joshua tree woodland. Specific methods shall be specified for avoiding Joshua tree woodlands and suitable candidates for translocation identified.
2. Specific efforts that will be made to minimize vegetation removal and permanent loss at construction sites. If necessary, native vegetation should be flagged for protection. When non-native vegetation is removed or disturbed, then native vegetation shall be the replacement.
3. Disclosure of the amount of acres of Joshua tree woodland to be removed. This quantification shall be used for compensation purposes.
4. The plan shall specify that a qualified biologist shall monitor construction and all Joshua trees removed or damaged shall be recorded and replaced at appropriate mitigation ratios as specified below.
5. Compensatory mitigation strategy, based on one or both of the following options:
    a. *Preservation*. On-site or off-site preservation of Joshua tree woodland habitat shall occur on parcels that contain, at minimum, the number of individual Joshua trees impacted by the project. The project proponent may mitigate all or part of the project's impacts to Joshua trees, as follows: Delineate and designate one or more parcels for dedication for permanent conservation management; establish a conservation easement on those parcels, the easement to be held and managed by a suitable management entity as determined by the Director of the Kern County Planning and Community Development Department; prepare and implement a Habitat Management Plan to maintain habitat conditions on the site in perpetuity; and provide a non-wasting endowment sufficient to implement the habitat management plan in perpetuity. The mitigation lands shall provide habitat at a 1:1 ratio for impacted lands, comparable to habitat to be impacted by the project (i.e., similar abundance and size of Joshua trees, similar dominant vegetation community, similar levels of disturbance or habitat degradation). Suitable mitigation lands provided for other species may be used for Joshua tree woodland mitigation, at a 1:1 ratio. The Plan shall specify maintenance and monitoring requirements for each parcel, which shall include but shall not be limited to fencing and access control; signage; security and enforcement; weed control; control measures for feral animals or pets; native habitat enhancement; fire prevention and management; and other long-term habitat considerations as appropriate.
    b. *In lieu monetary funding*. The project proponent(s) may mitigate all or part of the project's impacts to Joshua tree woodlands by funding the

acquisition and management in perpetuity of Joshua tree woodland habitat or habitats similar to those that contain impacted Joshua trees on site. Funding and management shall be provided through an existing mitigation bank (e.g., as managed by the City of Lancaster Parks, Recreation and Arts Department) or through a third-party entity such as the Wildlife Conservation Board or a regional Land Trust. The in-lieu fee shall provide sufficient funds to acquire appropriate lands to provide habitats containing Joshua trees at a 1:1 ratio for impacted lands, comparable to habitat to be impacted by the project (i.e., similar abundance and size of Joshua trees, similar dominant vegetation community, similar levels of disturbance or habitat degradation). Suitable mitigation lands provided for other species may be used for Joshua tree woodland mitigation, at a 1:1 ratio.

6. The creation or restoration of all habitats, as mitigation for both temporary and permanent impacts, shall be monitored until established success criteria are met, to assess progress and identify potential problems with the restoration site. Remedial activities (e.g., additional planting, weeding, or erosion control) shall be taken during the monitoring period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria within the established maintenance and monitoring period, monitoring shall extend beyond the initial period until the criteria are met or unless otherwise approved by Kern County and the California Department of Fish and Game.

MM 4.17-3 Pre-Construction Surveys and Minimization Measures for Special-Status Plants. Prior to issuance of grading or building permits by the County and/or a Notice to Proceed by the BLM, a qualified biologist shall conduct focused surveys during the appropriate blooming period for special-status plant species (i.e., state and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plant species, Bureau of Land Management Sensitive species, and California Rare Plant Rank 1B, 2, 3, and 4 species) within 100-feet of all surface-disturbing activities. Surveys shall be conducted according to protocols established by the United States Fish and Wildlife Service, California Department of Fish and Game, Bureau of Land Management, and the California Native Plant Society. Populations of special-status plants must be flagged and mapped prior to construction. A report of the special-status plants observed during the referenced surveys shall be prepared and submitted to the Bureau of Land Management's Authorized Officer, the Kern County Planning and Community Development Department, and the appropriate resource agencies prior to the start of construction. Impacts to non-listed special-status plant species shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding with locally collected seed stock. If AEWP activities will result in loss of more than 10 percent (10%) of the known individuals within an existing population of a California Native Plant Society List 1B, 2, 3, or 4 plant species, the project proponent shall preserve existing on- or off-site occupied habitat that is not already part of the public lands in perpetuity at a 1:1 mitigation ratio for California Rare Plant Rank 1B and 2 species and California Rare Plant Rank 3 and 4 species. The preserved habitat shall be occupied by the plant species impacted, and be of superior or similar habitat quality to the impacted

areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by the qualified biologist.

If Bakersfield cactus is identified within the construction area, the project proponent shall submit written documentation to the Kern County Planning and Community Development Department and the Bureau of Land Management to demonstrate how the following measures to reduce impacts to the Bakersfield cactus shall be implemented:

1. The project proponent(s) shall work with the designated biologist(s) to identify all known Bakersfield cactus and to establish "avoidance areas." All Bakersfield cacti found within the WE-corridor shall be avoided by a buffer of 25 feet through micro-siting activities within the project area. Sturdy, highly visible, orange plastic construction fencing shall be installed around all Bakersfield cactus avoidance areas and shall be located in accordance with direction from the designated biologist(s). The fence shall be securely staked and installed in a durable manner that would be reasonably expected to withstand wind and weather events and last at least through the construction period. Fencing shall be removed upon completion of the project construction.
2. *Bakersfield Cactus Translocation*. Any Bakersfield cactus that cannot feasibly be avoided during construction shall be translocated according to the California Department of Fish and Game's "Cactus Translocation (Revegetation)" guidelines, or as otherwise identified in the California Department of Fish and Game Incidental Take Permit or United States Fish and Wildlife Biological Opinion. Cacti shall be translocated to a suitable, California Department of Fish and Game-approved site.

MM 4.17-4 Best Management Practices for Activities In or Near Ephemeral Drainages. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed by the BLM, the project proponent shall submit a plan which demonstrates how the project proponent will implement all mitigation measures and conditions contained within the Streambed Alteration Agreement obtained from the California Department of Fish and Game for impacts to jurisdictional areas. In addition, the following Best Management Practices shall be implemented during all construction activity in or near ephemeral drainages:

1. Vehicles and equipment shall not be operated in ponded or flowing water except as described in the Streambed Alteration Agreement.
2. The project proponent shall minimize road building, construction activities, and vegetation clearing within ephemeral drainages to the extent feasible.
3. The project proponent shall not allow water containing mud, silt, or other pollutants from grading or other activities to enter ephemeral drainages or be placed in locations that may be subjected to high storm flows.
4. Spoil sites shall not be located within 30 feet from the boundaries of drainages or in locations that may be subjected to high storm flows, where spoils might be washed back into drainages.
5. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources, resulting from project-related activities, shall be prevented from contaminating the soil and/or entering ephemeral drainages.

6. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any drainage.
7. No equipment maintenance shall occur within 150 feet of any ephemeral drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow.
8. Avoid placing turbine support structures in aquatic features to the maximum extent practicable.
9. Natural washes shall be used for flood control, to the maximum extent practicable.
10. The number of road crossings over waters shall be minimized to the extent feasible and necessary crossings shall be designed to provide adequate flow-through during storm events to the maximum extent practicable.

MM 4.17-5 **Weed Control Plan.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed by the BLM, the project proponent shall prepare a comprehensive, adaptive *Weed Control Plan*, for review by the Kern County Planning and Community Development Department and the Bureau of Land Management. The purpose of the plan will be to minimize the establishment and spread of nonnative and invasive weed species within the project area during construction and operation activities. The Plan shall be implemented upon commencement of construction activities and be prepared in accordance with Bureau of Land Management policy regarding weeds.

4.17.12 Residual Impacts After Mitigation

Some of the mitigation measures described above would mitigate adverse impacts to vegetation resources by preventing the impacts from occurring. For example, Mitigation Measure 4.17-5 (Weed Control Plan) would prevent the introduction and spread of invasive weeds. Other mitigation measures would minimize adverse impacts on the project site and prevent them in adjacent offsite habitats, such as 4.17-4 (Best Management Practices for Activities In or Near Ephemeral Drainages). 4.17-1 (Habitat Restoration and Revegetation Plan) requires acquisition and management of offsite vegetation and habitat in perpetuity to offset the permanent loss of vegetation and habitat on the project site. This measure, while compensating for impacts to vegetation resources, would not prevent those impacts from occurring. Further, impacts considered temporary in this analysis because they would be restored after construction is complete would nonetheless remain for a period of time (10 years or more, depending on vegetation type) due to the fact that restoration occurs very slowly in arid desert environments. Thus, a temporal loss of vegetation and habitat would occur even with "temporary" impacts. With the implementation of Mitigation Measures 4.17-1 (Habitat Restoration and Revegetation Plan), Mitigation Measure 4.17-2 (Joshua Tree Preservation Plan), 4.17-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Plants), 4.17-4 (Best Management Practices for Activities In or Near Ephemeral Drainages), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emissions reduction), and 4.19-3 (drainage design plan), residual impacts to vegetation resources would be (1) the net loss of vegetation and habitat on the project site and along the transmission line; (2) the temporal loss of vegetation and habitat on revegetated project disturbance areas; (3) the direct effects of dust and other disturbances to adjacent offsite habitat during construction,

operation, and decommissioning of the facility; (4) the net loss of special-status plant occurrences on the project site; and (5) the net loss of state-jurisdictional streambeds on the site. These impacts are described above, under direct impacts of project construction. AEWP-related residual impacts would be less than significant with the implementation of mitigation.

4.18 Visual Resources

This section of the Proposed Plan Amendment (PA), Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) addresses potential impacts of the Alta East Wind Project (AEWP) on visual resources. The applicable environmental and regulatory settings are discussed in Chapter 3.18. Mitigation measures that would reduce impacts, where applicable, are discussed below.

4.18.1 Methodology for Analysis

Visual Resource Management (VRM)

Because the majority of AEWP site is located within BLM jurisdiction, the BLM Visual Resource Management (VRM) method was utilized for visual assessment of the entire AEWP. In addition, because the VRM method provides an accepted system of visual analysis applicable to non-BLM lands as well, the VRM method is applied to the portions of the AEWP outside of BLM jurisdiction, for the sake of consistency. The VRM system is broadly consistent with the requirements of both NEPA and CEQA for purposes of environmental review.

Under the VRM system, impact analysis is conducted through contrast rating, as described in BLM Handbook H-8400 et seq. Contrast rating of the AEWP is conducted for each applicable Key Observation Point (KOP), and is characterized in terms of the level of contrast – strong, moderate, weak, none – of formal visual elements (form line, color, texture) as they apply to features in the landscape. Impacts are then identified by whether or not the project conforms with the contrast criteria that represent visual management objectives for each of the four VRM Classes. As described in Section 3.18, above, Visual Resource Inventory Classes (VRI Classes) were mapped for the AEWP area and incorporated by BLM in its assignment of Interim VRM (IVRM) Classes, because the CDCA Plan does not impose or establish VRM classes for any portion of the . NEPA impacts are identified in this study by their conformance (or non-conformance) with the applicable IVRM Classes assigned by BLM. Management objectives for each VRM Class are as follows:

- Class I: (Special designation scenic management areas) No contrast allowable.
- Class II: Weak contrast. Project contrast can be seen but does not attract attention
- Class III: Moderate contrast. Project contrast begins to attract attention and begins to dominate the characteristic landscape.
- Class IV: Strong contrast. Project contrast can demand attention, will not be overlooked, is dominant in the landscape.

Under each alternative, a contrast rating analysis was conducted for each applicable KOP to determine the level of change that would be caused by the AEWP alternative, and its consistency with the applicable IVRM class management objective.

4.18.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on visual resources if it would:

VIS-1 Have a substantial effect on a scenic vista.

VIS-2 Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.

VIS-3 Substantially degrade the existing visual character or quality of the site and its surroundings.

VIS-4 Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

The above-noted thresholds are analyzed below in relation to both construction and the long term presence of the AEWP (operations and maintenance).

4.18.3 Alternative A: Project

4.18.3.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts for the AEWP has been organized according to the following phases: construction, operation and maintenance, and decommissioning. The nature and severity of the impacts are discussed below under each subheading.

Construction

Construction of the AEWP would cause temporary visual impacts due to the presence of equipment, materials, and workforce. These impacts would occur throughout the development area. Construction would involve the use of cranes, heavy construction equipment, temporary storage and office facilities, and temporary laydown/staging areas. Construction would also include site clearing and grading, construction of the actual facilities, and site cleanup and restoration. All of which would be visual prominent in and around the Project site. Visible traffic would also increase along State Route (SR) 58, commercial SR 58 (Aerospace Highway) through downtown Mojave and SR 14. During construction, grading activities would generate dust clouds, which can be visually distracting if not controlled properly. Construction activities would be visible from SR 58 and commercial SR 58. Throughout the construction period, the industrial character of the activities would constitute adverse visual impacts under CEQA impact criterion VS-1 (impact on scenic vistas) and impact criterion VS-3 (degrade existing visual character and quality) identified above in Section 4.18.2. The vast majority of the area disturbed by construction would eventually be occupied by AEWP facilities (see *Operation and Maintenance* below), though some areas of disturbed soil surfaces (potentially characterized by high color, line and texture contrasts) would still remain and would be visible from the various viewing vantage points. Revegetation of areas in this desert region are difficult and generally of limited success. Thus, visual recovery from residual land disturbance would likely occur only over a very long period of time and would require successful restoration as stipulated in Mitigation Measure 4.18-3 (Screening and Restoration). It is also anticipated that construction activity will take place at night. In order to ensure that significant construction lighting impacts do not occur associated with night time activities, Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) have been recommended to reduce impacts associated with night lighting.

Operation and Maintenance

The KOPs listed below are the same for all Alternatives in this analysis. Two KOPs in the VRM analysis, KOPs 4 and 6, are omitted from this discussion because the same areas and issues of the project viewshed are adequately addressed by the analysis of impacts associated with KOPs 3 and 7. KOP 4 is directed at the same short segment of the SR 58 corridor as KOP 3, only looking west rather than east. However, the sub-viewshed and associated features observed are the same as in KOP 3. The analysis of the two KOPs is thus the same. Similarly, the viewshed and portions of the project observed from KOP 6 are essentially the same as in KOP 7. Both are viewed from the same portion of the viewshed (vicinity of town of Mojave) and are representative of similar viewer groups, viewing conditions and distance zone. The analysis of the two KOPs is thus substantially the same. For each analyzed KOP, a contrast rating analysis was conducted to determine the level of change that would be caused by the AEWP, and its consistency with the applicable VRM class management objective.

KOP 1 – View Looking East from Pacific Crest National Scenic Trail

Figure 4.18-1 of Appendix A depicts the view looking east from the Pacific Crest Trail (PCT) at a distance of 1.2 miles from the nearest turbine of the AEWP. The view looks down upon the AEWP site, and to SR 58 as it enters Tehachapi Pass. The Antelope Valley floor and portions of the town of Mojave may be seen in the distance to the east. Figure 4.18-2 of Appendix A depicts a visual simulation of the AEWP at KOP 1. The turbines visible in this view would be located within BLM lands; likewise, this KOP on the PCT is located within BLM land. As illustrated by the simulation, the AEWP would introduce a substantial number of the large-scale turbines (up to 410 feet to top of turbine blade), including a large number that would break the skyline of the nearby ridge tops south of SR 58. The turbines would also cover a wide overall angle of view, including not only the portion depicted in the simulation, but an equal or greater number of turbines in views to the south, where they would begin to merge with turbines of another existing project. As suggested in the simulation, the angular, vertical, man-made character of the turbines present moderate to strong levels of structure contrast in form, line, color and texture from this viewpoint. It should also be noted, however, that the KOP represents the nearest viewpoint to the AEWP on the PCT. Distance to the AEWP site from the trail would increase to both the north and south of the KOP; the KOP is thus a worst-case view, and the prominence and contrast of the turbines would decrease with distance along other portions of the trail. The AEWP would exhibit a moderate or lower level of contrast in intermittent views from other portions of the PCT. In addition, the WTGs exhibit a simple, sculptural appearance. This, their uniformity in size and shape, the fact that their large scale allows large spacing between units, and siting that follows the contours of existing topography all contribute to a degree of overall visual unity and coherence, and a reduced level of visual disorder compared to some other wind developments in the region. These characteristics represent mitigating factors that reduce the AEWP's industrial character and level of potential visual impact. Considering that a strong level of visibility and contrast to viewers on the PCT would occur on only a very short segment of the trail and would be lower elsewhere, together with the visual unity exhibited by the proposed turbines and lack of disturbance of ground plane and vegetation, AEWP contrast would be moderate overall. This level of contrast would conform with the assigned IVRM Class IV objective, which allows a high level of contrast and visual change.

KOP 2 – View looking northwest from within rural-residential county lands north of SR 58 in Tehachapi Pass

Figure 4.18-3 of Appendix A represents the view from a small rural residential and commercial settlement located on county lands north of SR 58 at the eastern entrance to Tehachapi Pass. Viewing distance to the nearest AEWP WTGs would range from very near foreground distance (under 0.25 mile) to over one mile. Turbines in this view are located within federal lands. Figure 4.18-4 of Appendix A depicts a visual simulation of the AEWP at KOP 2. At a distance of 0.25 mile, the nearest turbine, with a height of over 400 feet, would appear prominently and, accentuated by the movement of turbine blades, would visually dominate. Other turbines to the south of SR 58 would be seen from this settlement at distances of as little as 0.5 mile. Overall, the turbines at this distance would present strong structure contrast in form, line, color and texture. This level of contrast would conform with the assigned IVRM Class IV objective in this portion of the AEWP site. Mitigating factors in views from the settlement include the highly disturbed character of much of the surrounding landscape within the Tehachapi Pass, including SR 58 and vehicles; large, prominent road cuts; fill slopes of the rail line south of SR 58; as well as structures and ground disturbance in the foreground within the settlement itself. Because of an absence of disturbance to ground plane and vegetation, overall AEWP contrast was considered <u>strong</u> ~~moderate~~.

KOP 3 – View looking southeast from within rural-residential county lands north of SR 58 in Tehachapi Pass.

Figure 4.18-5 is a view from the same rural settlement as KOP 2, looking into the pass over SR 58, toward portions of the AEWP site to the south of SR 58. Viewing distance to the nearest turbines would be as little as 0.5 mile in this direction of view. It is also representative of views within this portion of the Tehachapi Pass generally. The view illustrates the visually compromised character of much of the SR 58 corridor, dominated by SR 58, large road cuts, the existing railroad line and embankments, billboards and existing development within the settlement. The nearest turbines in this view would be located within private, county lands; those farthest to the left and in the background of the view would be located on BLM lands. Turbines would be visible over a wide angle of view from this location, to the south and southwest as well as southeast as in this view.

Figure 4.18-6 of Appendix A depicts a visual simulation of the AEWP at KOP 3. As seen from distances of as little as 0.5 mile over such a wide proportion of the total view, these turbines would present strong structure contrast of form, line, color and texture against the existing landscape. Because the entire AEWP falls within IVRM Class IV, however, this level of contrast would conform with the applicable IVRM Class. Class IV areas may accommodate strong levels of AEWP visual contrast. Because of an absence of disturbance to ground plane and vegetation, overall AEWP contrast was considered strong ~~moderate~~.

KOP 5 – View looking northwest from SR 14/SR 58 interchange

Figure 4.18-7 of Appendix A is a view from the vicinity of the SR 14/SR 58 interchange at a distance of 3.0 miles or more from the nearest propose turbines, looking toward portions of the AEWP site located primarily on BLM lands in the Horned Toad Hills. The view is representative of northbound motorists on SR 58 and southbound motorists on SR 14 at middle-ground distance (under 5.0 miles). The turbines depicted in Figure 4.18-8 of Appendix A (simulation) are located within IVRM Class IV areas. As depicted in Figure 4.18-8, the AEWP would extend over a large area and portion of the view, strongly dominating the Horned Toad foothill landscape in the foreground of the taller Tehachapi Mountains behind. The large-scale, white, vertical man-made forms would present moderate to strong structure contrast in form, line, color and texture contrast against the brown desert scrub land cover and rugged topographic forms. The portions of the AEWP sited on BLM lands with IVRM Class IV in the foothill landscape unit would be nearest the viewpoint and would present strong contrast. The new turbines would greatly extend the area of the view affected by wind development and introduce a highly prominent, highly contrastive element over a large field of view. Because the management objectives of Class IV lands accommodate strong contrast, however, the AEWP in these areas would conform with their assigned IVRM Class. Impacts in this and similar views to the west are moderated further by the presence in the same field of view of extensive existing wind development which, although less prominent than the AEWP would be, are visible on some of the same foothill ridge tops to be occupied by the AEWP and dominate the existing character of the view. Due to this fact, and the absence of disturbance to ground plane and vegetation, overall AEWP contrast was considered strong ~~moderate~~.

KOP 7 – View looking north from Oak Creek Road/SR 58 Overpass in Mojave

Figure 4.18-9 of Appendix A is a view from the elevated Oak Creek Road overpass west of the Community of Mojave at a distance of three miles or greater from the AEWP site, and represents the view conditions both from the town, and from nearby residential settlements that can be seen in the foreground of the photo. The view is very similar in distance and character to KOP 5, above. Figure 4.18-10 of Appendix A depicts a visual simulation of the AEWP at KOP 7. Impacts would also be similar. The portions of the AEWP sited on BLM lands with IVRM Class IV in the foothill landscape unit would be nearest the viewpoint and would present moderate to strong structure contrast. The existing landscape is already affected by the presence of extensive wind development. Not visible in the photograph are new turbines of the Alta–Oak Creek Mojave AEWP currently under construction within distances of as little

as 2 miles from the KOP, and as little as 1 mile from the residences in the photo. The AEWP would extend the presence of the existing wind development much closer to viewers in this portion of the viewshed, and greatly increase the prominence of wind development within the landscape. However, due to the prominent presence of existing wind development in the viewshed, and the absence of disturbance to ground plane and vegetation, overall AEWP contrast was considered moderate.

Light

In accordance with FAA standards, aviation warnings in the form of medium-intensity red strobe warning lights would be placed on the nacelles of the WTGs on each end of a WTG string, as well as on every third or fourth WTG in a row. These warning lights are visible from 10 miles at night and would therefore, be visible from residences in the vicinity and from users of the PCT. Several other wind energy projects have been approved in the vicinity of the AEWP, and several projects have already been constructed. Therefore, the existing character of the night sky of the AEWP is not entirely free from sources of manmade light. However, the warning lights would alter the existing character of the night sky for the nighttime viewers of the AEWP site and could potentially cause an annoyance for residents in the area and campers along the PCT. As such, the warning lights would constitute a new source of substantial light at night, which would adversely affect nighttime views in the area. Implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would reduce the effects of light and glare from FAA-required strobe warning lights to the maximum extent feasible; however, the impact to nighttime views resulting from the warning lights would remain a significant and unavoidable impact.

Security lighting would be installed on the Operation and Maintenance (O&M) building, substations, and along the on-site security fencing. The security lighting has the potential to be a source of low levels of sky glow and light trespass. As the existing character of the night sky of the AEWP is largely free from sources of manmade light, the AEWP's potential sources of sky glow and light trespass would constitute a new source of substantial light at night, which would adversely affect nighttime views in the area. However, implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would be expected to prevent security lighting on the O&M buildings, substations, and on-site security fencing from causing significant levels of sky glow or light trespass. Therefore, implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would be expected to reduce impacts related to a new source of light and glare to a less than significant level.

Shadow Flicker

With the installation of WTGs, the AEWP has the potential to result in a phenomenon known as "shadow flicker." Shadow flicker is the alternating change in light intensity that occurs when rotating WTG blades cast moving shadows on the ground or on structures. Shadow flicker effects may have the potential to cause seizures in some individuals.

A shadow flicker analysis was prepared for the conceptual WTG layouts developed for the AEWP. The *Shadow Flicker Analysis for the Alta East Wind Project* (CH2MHill, 2011g) was prepared to examine the potential of known residences and other potentially inhabitable structures to be affected by shadow flicker from the wind component of the AEWP, based on location, orientation and distance from the WTGs. The analysis was prepared for two turbine option layouts, labeled as option A and option B.

The total number of hours per year that each structure would be expected to experience shadow flicker from AEWP WTGs was calculated with WindPRO modeling software and is summarized in the Shadow Flicker Summary presented in Appendix E. In order to generate a realistic scenario, the model allowed for the input of typical atmospheric conditions for the area including sunshine probability, wind speed, and wind direction. The sunshine probability was based on an average of the cloud cover for the Edwards Air Force Base meteorological data set (refer to shadow flicker study provided in Appendix E). Because the

precise window locations and orientation of the sensitive receptors is not known, the model conservatively assumes that windows at affected structures face all directions and are perpendicular to all of the WTGs. Therefore, the modeled results would be expected to be higher values than what would actually occur.

As presented in Section 3 of the Shadow Flicker Analysis (Appendix E), under a worst case scenario (option A), shadow flicker would be expected to occur at 43 of 51 existing structures within the Zone of Visual Influence, with most of the affected residences (32 out of 41, or 78 percent) experiencing less than 10 hours per year. As shown below in Table 4.18-1, Modeled Shadow Flicker Impacts – Alternative A, the total annual shadow flicker from AEWP WTGs at the 42 affected structures would range from 14 minutes to 23 hours 56 minutes per year, and up to a maximum instance of 1 hour 53 minutes per day (Residence 43). The actual time per day would vary widely at the locations that would experience shadow flicker; some days there would be no shadow flicker and some days there would be up to 1 hour 53 minutes of shadow flicker.

Seizures in photosensitive people may be triggered by exposure to such sources as television screens and computer monitors due to the flicker or rolling images of video games or TV broadcasts containing rapid flashes or alternating patterns of different colors, and to intense strobe lights like visual fire alarms. Seizures may also be triggered by natural light, such as sunlight, especially when shimmering off water, flickering through trees or through the slats of Venetian blinds (Epilepsy Foundation, 2012). However, even in individuals predisposed to flicker-induced seizures, many factors must combine to trigger the photosensitive reaction, such as frequency and brightness of the flash, contrast with background lighting, distance between the viewer and the light source, and wavelength of light (Epilepsy Foundation 2012). The frequency or speed of flashing light that is most likely to cause seizures varies from person to person. Generally, flashing lights most likely to trigger seizures are between the frequency of 5 to 30 flashes per second (Epilepsy Foundation 2012). Although it is not yet known which make and model of WTG would be installed at the AEWP site, the approximate number of flashes per second caused by a WTG with three blades can be estimated with the following assumptions:

- 1 flash = 1 revolution per blade
- Revolutions per minute = 8.6-18.4*
- 3 blades/rotor

* Data for a Vestas V90 3.0 MW turbine (Vestas, 2012).

Using the above assumptions, it is estimated that in a worst case scenario, structures within the shadow path of WTGs on a sunny day would experience shadow flicker at a frequency of less than one flash per second (0.92 flashes per second). This is well below the frequency of flashes considered most likely to trigger seizures (i.e. 5 to 30 flashes per second) by the Epilepsy Foundation. Therefore, shadow flicker effects of the AEWP would not be expected to induce seizures in photosensitive individuals near the AEWP.Although shadow flicker effects may be considered a potential nuisance depending on the intensity of the effect which would depend on the distance and orientation of a subject property (or a structure's windows) to the WTGs, shadow flicker effects would not be expected to induce seizures. Impacts are therefore considered less than significant.

Table 4.18-1. Modeled Shadow Flicker Impacts – Alternative A

Residence ID	Total Potential Shadow Flicker Adjusted for Overcast Conditions & Operational Hours (hrs:min per year)	Maximum Daily Shadow Flicker (hrs:min per day)*	Turbines Contributing to Shadow Flicker	Distance to Nearest Turbine (meters)	Months that Shadow Flicker Occurs
Residence 1	0:00	0	—	770	—
Residence 2	0:00	0	—	776	—
Residence 3	0:00	0	—	741	—
Residence 4	5:22	0:27	AE-024, AE-025, AE-108	681	Jan, Nov, Dec
Residence 5	5:08	0:25	AE-023, AE-024, AE-108, AE-110	765	Jan, May, Jul, Aug, Dec
Residence 6	5:17	0:24	AE-023, AE-024, AE-108, AE-110	775	Jan, May, Jul, Aug, Dec
Residence 7	5:12	0:29	AE-023, AE-024, AE-070, AE-108, AE-110	804	Jan, May, Jun, Jul, Nov, Dec
Residence 8	2:47	0:18	AE-070, AE-108, AE-110	838	Jan, May, Jun, Jul, Nov, Dec
Residence 9	9:15	0:20	AE-022, AE-070, AE-110	921	Jan, Feb, May, Jun, Jul, Nov, Dec
Residence 10	9:46	0:21	AE-008, AE-022, AE-070, AE-110	948	Jan, Apr, May, Jun, Jul, Aug, Nov, Dec
Residence 11	10:40	0:29	AE-008, AE-022, AE-070, AE-110	911	Jan, Apr, May, Jun, Jul, Aug, Nov, Dec
Residence 12	10:49	0:33	AE-008, AE-021, AE-022, AE-069, AE-070	809	Jan, Feb, May, Jul, Aug, Nov, Dec

Table 4.18-1. Modeled Shadow Flicker Impacts – Alternative A

Residence 13	10:22	0:30	AE-007, AE-008, AE-021, AE-022, AE-069, AE-070	820	Jan, Feb, Apr, May, Jul, Aug, Nov, Dec
Residence 14	11:15	0:27	AE-006, AE-007, AE-008, AE-021, AE-068, AE-069	643	Jan, Apr, May, Jun, Jul, Aug, Sep, Nov, Dec
Residence 15	11:30	0:25	AE-003, AE-006, AE-007, AE-008, AE-021, AE-068	605	Jan, Apr, May, Jun, Jul, Aug, Sep, Dec
Residence 16	9:02	0:26	AE-003, AE-005, AE-006, AE-007, AE-008, AE-021	561	Jan, Mar, Apr, May, Jun, Jul, Aug, Sep, Dec
Residence 17	3:58	0:23	AE-003, AE-005, AE-006, AE-007, AE-008	482	Mar, Apr, May, Jun, Jul, Aug, Sep
Residence 18	5:54	0:25	AE-003, AE-005, AE-006, AE-007, AE-008	422	Mar, Apr, May, Jun, Jul, Aug, Sep
Residence 19	4:10	0:25	AE-003, AE-005, AE-006, AE-007	421	Mar, Apr, May, Jun, Jul, Aug, Sep
Residence 20	5:35	0:31	AE-003, AE-005, AE-006, AE-007, AE-008	403	Mar, Apr, May, Jun, Jul, Aug, Sep, Oct
Residence 21	5:34	0:28	AE-003, AE-005, AE-006, AE-007, AE-008	499	Mar, Apr, May, Jun, Jul, Aug, Sep, Oct
Residence 22	7:43	0:28	AE-008, AE-022, AE-070, AE-110	965	Jan, Apr, May, Jun, Jul, Aug, Dec
Residence 23	1:30	0:20	AE-008, AE-110	1,071	Apr, May, Aug, Sep
Residence 24	2:25	0:23	AE-008, AE-110	925	Apr, May, Jul, Aug, Sep
Residence 25	9:23	0:33	AE-007, AE-008, AE-110	666	Apr, May, Jun, Jul, Aug, Sep

Table 4.18-1. Modeled Shadow Flicker Impacts – Alternative A

Residence 26	4:43	0:37	AE-003, AE-005, AE-006, AE-007, AE-008	266	Feb, Mar, Apr, May, Jul, Aug, Sep, Oct
Residence 27	3:06	0:36	AE-003, AE-005, AE-006, AE-007, AE-008, AE-110	244	Feb, Mar, Apr, Jun, Aug, Sep, Oct
Residence 28	23:56	1:23	AE-003, AE-005, AE-006, AE-007, AE-008, AE-110	250	Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct
Residence 29	2:44	0:42	AE-003, AE-006, AE-007, AE-008, AE-110	495	Mar, Apr, May, Aug, Sep, Oct
Residence 30	1:42	0:34	AE-007, AE-008, AE-110	618	Mar, Apr, May, Aug, Sep
Residence 31	1:02	0:26	AE-008, AE-110	807	Mar, Apr, Aug, Sep
Residence 32	0:14	0:18	AE-110	1,130	Apr, Sep
Residence 33	0:01	0:19	AE-110	1,095	Mar, Apr, Sep
Residence 34	0:20	0:19	AE-110	1,087	Mar, Sep, Oct
Residence 35	0:29	0:21	AE-008, AE-110	973	Mar, Sep, Oct
Residence 36	0:19	0:23	AE-008, AE-110	894	Mar, Sep
Residence 37	0:22	0:26	AE-008, AE-110	797	Mar, Apr, Sep
Residence 38	0:45	0:26	AE-008, AE-110	814	Mar, Sep, Oct
Residence 39	0:24	0:28	AE-007, AE-008, AE-110	736	Mar, Apr, Sep, Oct
Residence 40	1:11	0:30	AE-007, AE-008, AE-110	722	Mar, Sep, Oct
Residence 41	1:39	0:34	AE-007, AE-008, AE-110	639	Feb, Mar, Sep, Oct

Table 4.18-1. Modeled Shadow Flicker Impacts – Alternative A

Residence 42	12:27	1:30	AE-003, AE-005, AE-006, AE-007, AE-008, AE-110	246	Feb, Mar, Apr, Aug, Sep, Oct, Nov
Residence 43	21:37	1:53	AE-003, AE-005, AE-006, AE-007, AE-008, AE-110	202	Jan, Feb, Mar, Apr, Aug, Sep, Oct, Nov
Residence 44	17:55	1:22	AE-003, AE-005, AE-006, AE-007, AE-008, AE-110	328	Jan, Feb, Mar, Sep, Oct, Nov
Residence 45	5:50	0:23	AE-044, AE-045	842	May, Jun, Jul, Aug
Residence 46	5:35	0:21	AE-044, AE-045, AE-046	858	Apr, May, Jun, Jul, Aug
Residence 47	0:00	0	—	1,678	—
Residence 48	0:00	0	—	1,960	—
Residence 49	0:00	0	—	1,411	—
Residence 50	0:00	0	—	1,679	—
Residence 51	0:00	0	—	1,836	—

Notes: * Not adjusted for overcast conditions or operational hours
Source: Appendix E

Decommissioning

After the end of the AEWP's useful life, it would require decommissioning as is required by Chapter 19.64 (WE Combining) of the Kern County Zoning Ordinance. The BLM would also require decommissioning on the facilities located on the lands it manages. Even the complete removal of the facility would leave a very prominent visual impact over the entire site due to the strong color contrast created between graded, disturbed soil areas and undisturbed soil areas in the vicinity of the AEWP site. In addition, revegetation in this desert region is difficult and generally of limited success. Thus, visual recovery from land disturbance of closure and decommissioning would likely occur only over a long period of time. However, Mitigation Measure 4.18-3 (Screening and Restoration) is recommended to achieve site restoration, though over a long period.

Additional NEPA Criteria

Would the presence of the project or alternative result in a long-term (greater than three years) inconsistency with established (or interim) BLM VRM class objectives?

No. Because the entire AEWP site (Alternative A) is located within IVRM Class IV areas, the AEWP would be consistent with the applicable visual management objectives.

Would the construction or presence of the project and any of its components result in an inconsistency with local regulations, plans, and standards applicable to the protection of visual resources?

No. As discussed in Section 3.18.2, Applicable Regulations, Plans and Standards, the AEWP would conform with relevant local plans, policies and ordinances.

Would the presence of the AEWP add to a cumulative visual alteration?

Yes. As discussed in Section 4.18.9, the AEWP would make a substantial contribution to the cumulative impact on visual resources, both in the immediate AEWP area (Tehachapi Pass, northern Antelope Valley, Community of Mojave) and eastern Kern ~~the TWRA~~. The resulting visual impact would be significant.

Would the presence of the AEWP be consistent with the BLM CDCA Plan?

Yes. The AEWP would be consistent with the IVRM Class IV management objectives within the AEWP study area.

4.18.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

CEQA significance criteria are specifically addressed below.

Construction, Operation and Maintenance, Decommissioning

- **VIS-1 (*Have a substantial effect on a scenic vista*).** Although no designated scenic vistas were identified in the study area, panoramic and scenic vistas overlooking the Antelope Valley, Horned Toad Hills, and Tehachapi Mountains are available to backcountry recreationists who access the PCT in the region of the AEWP site, as represented by KOP 1. Mitigation Measures 4.18-2 (Verification of Low Contrast Facilities and Landscaping) and 4.18-3 (Screening and Restoration) would reduce this impact. Given the prominent presence of existing wind development in the PCT viewshed and the fact that AEWP visibility is limited to sporadic views over a relatively short length of trail, the moderate overall level of AEWP contrast to trail viewers is considered a less-than-significant impact on scenic vistas.

- **VIS-2 (*Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway*).** There are no notable scenic or historic resources located within the AEWP site. Portions of SR 14 and SR 58 east of their intersection are eligible but not designated state scenic highways. Mitigation Measures 4.18-2 (Verification of Low Contrast Facilities and Landscaping) and 4.18-3 (Screening and Restoration) would reduce this impact. Therefore, the AEWP would not substantially damage scenic resources such as trees, rock outcroppings, or historic buildings along a State Scenic Highway and the resulting visual impact would be less-than-significant.
- **VIS-3 (*Substantially degrade the existing visual character or quality of the site and its surroundings*).** As noted in Section 4.18.1, the BLM Visual Resource Management (VRM) method was utilized for visual assessment of the entire project site. Under the VRM system, impact analysis was conducted through contrast rating for each applicable Key Observation Point (KOP), and characterized in terms of the level of contrast – strong, moderate, weak, none – of formal visual elements (form line, color, texture) as they apply to features in the landscape. Impacts were then identified by whether or not the project conforms with the contrast criteria that represent visual management objectives for each of the four VRM Classes. As described in Section 3.18, above, Visual Resource Inventory Classes (VRI Classes) were mapped for the AEWP area and incorporated by BLM in its assignment of Interim VRM (IVRM) Classes. The project site was classified as IVRM Class IV (the classification provided to areas with existing visual impacts) due in part to the presence of other existing wind energy development in proximity to the project. Within Class IV areas, strong contrast is permissible because the susceptibility of the area to visual impacts is considered to be low; typically due to existing visual impacts. As described above, a contrast rating analysis was conducted for each applicable KOP to determine the level of change that would be caused by the AEWP alternative, and its consistency with the applicable IVRM class management objective.

  As indicated above in Section 4.18.3.1, overall visual contrast/change from the AEWP as seen from all KOPs was considered to be moderate. As seen from some KOPs, turbines would present strong structure contrast of form, line, color and texture against the existing landscape. However, because the entire AEWP falls within IVRM Class IV, this level of contrast would conform with the applicable IVRM Class. Class IV areas may accommodate strong levels of AEWP visual contrast due to existing visual impacts and the resulting low susceptibility of the affected landscapes to visual impacts. Because of an absence of disturbance to ground plane and vegetation, overall AEWP contrast was considered moderate.

  Because the visual quality of existing viewsheds has been compromised by extensive, prominent existing wind development and other visual disturbance, susceptibility of all KOPs to impact was considered to be moderate or low. Mitigation Measures 4.18-2 (Verification of Low Contrast Facilities and Landscaping) and 4.18-3 (Screening and Restoration) would reduce this impact. Nevertheless, for the purposes of CEQA, the project would result in significant changes to the visual environment that may result in potentially adverse effects on visual quality throughout the project area. Impacts would therefore be significant and unavoidable.
- **VIS-4 (*Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area*).** Implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would be expected to prevent security lighting on the O&M buildings, substations, and on-site security fencing from causing significant levels of sky glow or light trespass. Therefore, implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would be expected to reduce impacts related to a new source of light and glare to a less than significant level. Implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would reduce the effects of light and glare from FAA-required strobe warning

lights to the maximum extent feasible; however, the impact to nighttime views resulting from the warning lights would remain a significant and unavoidable impact.

4.18.4 Alternative B: Revised Site Layout

4.18.4.1 Direct and Indirect Impacts

The direct and indirect impacts of Alternative B would essentially be the same as for Alternative A (AEWP). No readily discernible difference in visual impacts would be experienced by the public.

Construction

Construction impacts resulting from Alternative B would be essentially the same as for Alternative A. The reader is referred to Section 4.18.3.1 above for a complete discussion of the visual impacts that would be experienced during construction.

Operation and Maintenance

Operation and maintenance impacts resulting from Alternative B would be essentially the same as for Alternative A.

Decommissioning

Decommissioning impacts resulting from Alternative B would be essentially the same as for Alternative A.

4.18.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The impact significance determinations for Alternative B would be the same as for Alternative A.

4.18.5 Alternative C: Reduced Project North

4.18.5.1 Direct and Indirect Impacts

The direct and indirect impacts of Alternative C would be identical to Alternative A, except that impacts from portions of Alternative A located north of SR 58, as described under KOPs 1, 2 and 3, would not occur.

Construction

Construction impacts resulting from Alternative C would be essentially the same as for Alternative A. The reader is referred to Section 4.18.3.1 above for a complete discussion of the visual impacts that would be experienced during construction.

Operation and Maintenance

Operation and maintenance impacts resulting from Alternative C would be essentially the similar as for Alternative A, except that hikers on the PCT and residents north of SR 58 would experience reduced visual impacts.

Decommissioning

Decommissioning impacts resulting from Alternative C would be essentially the same as for Alternative A.

4.18.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

The impact significance determinations for Alternative C would be the same as for Alternative A.

4.18.6 Alternative D: Reduced Project Southwest

4.18.6.1 Direct and Indirect Impacts

The direct and indirect impacts of Alternative D would be substantially similar to Alternative A. Alternative D would eliminate a portion of Alternative A occupying the southwestern-most section of Alternative A. This section is visually isolated from SR 58 by intervening hills, and is most visible from portions of the PCT and a small number of remote rural residences to the southeast. However, because this section is located within an area of the foothills adjoined by extensive existing wind development immediately to the north, west, and south, the additional development proposed in this section under Alternative A would result in limited increased impact and would not contrast strongly with the existing, turbine-dominated landscape. Because the views of residents and hikers in the vicinity of this section are already strongly dominated by existing wind development, the elimination of turbines in this section would not substantially reduce impacts relative to Alternative A.

Construction

Construction impacts resulting from Alternative D would be essentially the same as for Alternative A. The reader is referred to Section 4.18.3.1 above for a complete discussion of the visual impacts that would be experienced during construction.

Operation and Maintenance

Operation and maintenance impacts resulting from Alternative D would be essentially the same as for Alternative A.

Decommissioning

Decommissioning impacts resulting from Alternative D would be essentially the same as for Alternative A.

4.18.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

The impact significance determinations for Alternative D would be substantially the same as for Alternative A.

4.18.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

4.18.7.1 Direct and Indirect Impacts

Under Alternative E (No Issuance of a ROW Grant and No LUP Amendment to the AEWP), no action would occur, and existing conditions relevant to visual resources would continue. No impact would occur.

4.18.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Project)

Alternative E would result in no impacts to visual resources because no changes to the existing landscape would occur.

4.18.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.18.8.1 Direct and Indirect Impacts

Under this alternative, the BLM would not approve the AEWP, and would amend the CDCA Plan to find the site unsuitable for wind energy development. As a result, no wind energy project would be constructed within the BLM lands portion of the site, and the BLM would continue to manage these lands consistent with the existing land use designation in the CDCA Plan. Because the CDCA Plan would be amended to exclude future wind energy development, it is expected that the site would continue to remain in its existing condition, with no new structures or facilities constructed or operated within BLM lands..

4.18.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would result in no impacts to visual resources because no changes to the existing landscape would occur.

4.18.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

4.18.9.1 Direct and Indirect Impacts

Under this alternative, the BLM would not approve the AEWP, but would amend the CDCA Plan to find the site suitable for wind energy development. As a result, it is possible that another wind energy project could be proposed and constructed within BLM lands contained within the site. Alternative G would be expected to result in generally the same level and type of impacts as discussed for Alternatives E and F, except potential impacts as described for the AEWP and alternatives would potentially occur at a later time.

4.18.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

Alternative G would result in no impacts to visual resources because no changes to the existing landscape would occur.

4.18.10 Cumulative Impacts

Under CEQA, a project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual

project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (California Code Regulation, Title 14, section 15130). This concept is similar to NEPA, which states that cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7). Cumulative effects could result from the construction, operation and maintenance, and decommissioning phases of a project.

Cumulative impacts to visual resources would occur where project facilities or activities occupy the same field of view as other built facilities or impacted landscapes, and an adverse change in the visible landscape character is perceived. A cumulative impact could also occur if a viewer perceives that the general visual quality or landscape character of a localized or regional area is diminished by the proliferation of visible similar structures or construction effects, even if the changes are not within the same field of view as existing (or future) structures or facilities. The result is a perceived "industrialization" or "urbanization" of the existing rural or undeveloped landscape character of a region.

There is the potential for substantial future energy development in the northern Antelope Valley and eastern Kern ~~the TWRA~~ in particular. A list of the existing and reasonably foreseeable cumulative projects is provided in Table 4.1-1 and shown on Figure 4.1-1 in Appendix A.

4.18.10.1 Geographic Extent/Context

Cumulative impacts to visual resources could occur if implementation of AEWP would combine with those of other local or regional projects. AEWP is potentially associated with two types of cumulative impacts:

- Local cumulative impacts within the immediate AEWP viewshed (local projects within 15 miles of AEWP that could be seen simultaneously with the AEWP (15 miles or greater is the radius identified in the BLM VRM methodology as the 'seldom seen' distance zone);
- Regional cumulative impacts beyond the immediate AEWP viewshed, extending to existing and reasonably foreseeable future solar and other energy and development projects within the northern Antelope Valley/eastern Kern ~~TWRA~~ as a whole. These projects, while not necessarily located within the same field of view as the AEWP would, in combination with AEWP, contribute to a sense of industrialization or urbanization of the existing landscape character of a 34-mile length of the Tehachapi Mountains where they front on the western Mojave Desert/Antelope Valley. ~~The TWRA as whole encompasses a nearly continuous 25 mile length of the PCT.~~

4.18.10.2 Existing Cumulative Conditions

This section identifies the past and present projects and actions that have affected and will continue to affect landscape character in the local and regional cumulative study areas described above. As described in Section 3.18, the existing landscape within both a 15-mile radius of the AEWP and within eastern Kern ~~the TWRA~~ as a whole exhibit strong presence of existing wind development. Four existing wind projects and one solar project are identified in Table 4.1-1, Cumulative Projects List, within a 15-mile radius of the AEWP: the Alta-Oak Creek-Mojave Wind Project, the Coram Brodie Wind Project, the Pine Tree Wind Project, and the Sky River Wind Project, and the Monte Vista Solar Project. Within eastern Kern ~~the TWRA as a whole~~, Table 4.1-1 identifies one additional existing wind project, the Manzana Wind Project. While wind and solar projects are not the only ones that would contribute to cumulative visual impacts in the region, their spatially very extensive nature and large-scale industrial character causes their potential cumulative visual effects to eclipse those of most other foreseeable future projects listed in Table 4.1-1. The five existing wind projects listed already account for a profoundly transformed landscape within much of eastern Kern ~~the TWRA~~ in which the cumulative industrial character of the projects has come to increasingly dominate much of the northern Antelope Valley west of Mojave.

4.18.10.3 Reasonably Foreseeable Projects

To the existing wind projects above, Table 4.1-1 lists nine additional wind applications and five additional solar applications in various stages of review or approval within the immediate 15-mile radius of the AEWP. Overall, Table 4.1-1 lists 18 wind applications and 14 solar applications in the northern Antelope Valley and adjoining Tehachapi Mountains.

4.18.10.4 Construction

If construction at the five locally cumulative project locations were to occur at the same time as, or consecutively before or after, construction of the AEWP, construction activities, equipment and night lighting from these sites would combine with similar activities and equipment from the AEWP site. Construction of the AEWP and the other cumulative projects in the immediate AEWP vicinity would lead to the continued presence of construction equipment on roads and in the landscape in the local project region for several years, and cause a substantial cumulative visual impact.

4.18.10.5 Operation and Maintenance

Local Cumulative Area

If the nine listed wind project applications within 15 miles of the AEWP are realized they, in combination with the AEWP and four existing projects, would result in a substantial intensification and spatial extension of the current wind-development-dominated portions of the regional landscape. One existing and five additional proposed solar projects in the same area would contribute further to an intensification of a predominantly industrial character that would dominate and eclipse the natural basin and range landscape of the AEWP site and vicinity. This cumulative effect would completely alter the character of the landscape west and north of the Community of Mojave, which would become visually dominated by wind and solar facilities. The resulting visual impact would be cumulatively considerable.

Regional Cumulative Area

The 18 wind applications and 14 solar applications listed in Table 4.1-1, if realized, would result in similar cumulative effects to those just described, extending to eastern Kern ~~the TWRA~~ and its surrounding viewshed as a whole. The developed portions of eastern Kern ~~the TWRA~~ and a surrounding area extending for 10 miles or more would become visually dominated by the industrial character of intensive wind and solar development. Much of an approximately 25-mile segment of the PCT would become strongly affected by the cumulative effect of these combined projects. The resulting visual impact to the region would be cumulatively considerable.

4.18.10.6 Decommissioning

Cumulative impacts associated with decommissioning of AEWP or an alternative would include the removal and disposal of turbine towers, aboveground electrical tower components, and substation components, as well as the removal of all belowground infrastructure to 3 feet below the ground surface. Restoration of the AEWP site would include returning the area as close as reasonably possible to pre-construction conditions suitable for current adjacent land. However, following removal of the facility, a strong color contrast associated with vegetation removal and disturbed soils would remain. In addition, revegetation in a desert region is difficult and generally enjoys limited success. Thus, visual recovery from land disturbance of closure and decommissioning would likely occur only over a very long period of time and significant visual impacts would likely remain. However, Mitigation Measure 4.18-3 (Screening and Restoration) is recommended to achieve site restoration to the extent feasible. Therefore, decommissioning and restoration would not eliminate AEWP's contribution to local and regional cumulative impacts on visual resources, and adverse and cumulatively considerable effects would occur.

4.18.10.7 CEQA Significance and Impact Determinations, Cumulative

AEWP's contribution to the visible industrialization of the desert landscape would constitute a significant visual impact when considered in the context of existing cumulative conditions and reasonably foreseeable projects, both within the immediate project viewshed and in a somewhat broader context that encompasses eastern Kern ~~the TWRA~~ and surroundings as a whole.

CEQA Criteria

- **VIS-1 (*Have a substantial effect on a scenic vista*).** Although no designated scenic vistas were identified in the study area, panoramic and highly scenic vistas are the primary attraction for hikers on the PCT. An approximately 25-mile segment of that trail located within the areas of existing wind development would become further visually dominated by the cumulative effect of wind and solar projects. While Mitigation Measures 4.18-2 (Verification of Low Contrast Facilities and Landscaping) and 4.18-3 (Screening and Restoration) would reduce this impact, the resulting cumulative visual impact would be significant and unavoidable.
- **VIS-2 (*Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway*).** There are no specific notable scenic features or historic structures within the cumulative area of effect being considered here. No designated or local state scenic highways would be affected. Mitigation Measures 4.18-2 (Verification of Low Contrast Facilities and Landscaping) and 4.18-3 (Screening and Restoration) would reduce this impact. The resulting cumulative visual impact would be less-than-significant.
- **VIS-3 (*Substantially degrade the existing visual character or quality of the site and its surroundings*).** The AEWP, in combination with existing and reasonably foreseeable cumulative projects, would cumulatively alter and dominate the existing landscape of the immediate AEWP vicinity and eastern Kern ~~the TWRA~~ and surroundings as a whole. Where the existing natural basin and range landscape still currently predominates, the industrial character of spatially extensive, highly prominent wind and solar projects would come to strongly dominate, substantially degrading the existing visual character and quality. Areas within the cumulative study area that are already affected by wind development would be much more intensively impacted. Areas within the cumulative study area that are not currently affected by wind development would become visually dominated by it. Mitigation Measures 4.18-2 (Verification of Low Contrast Facilities and Landscaping) and 4.18-3 (Screening and Restoration) would reduce this impact. However, the resulting cumulatively considerable visual impact would be significant and unavoidable.
- **VIS-4 (*Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area*).** Mitigation Measure 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards), would ensure that significant night lighting impacts from O&M buildings and operations would not occur. However, impacts from FAA required night lighting, and from shadow flicker of operating turbine blades could be expected to interact with the same effects from other cumulative projects. The resulting cumulatively considerable visual impact would be significant and unavoidable.

4.18.10.8 Additional NEPA Criteria

Would the presence of the project or alternative result in a long-term (greater than three years) inconsistency with established (or interim) BLM Visual Resource Management (VRM) Class objectives?

No. AEWP itself would affect only IVRM Class IV lands, and would thus not have a long-term inconsistency with applicable VRM class objectives. However, AEWP could potentially contribute to significant cumulative impacts in combination with other cumulative projects located on lands of IVRM Class III or higher.

Would the construction or presence of the project and any of its components result in an inconsistency with local regulations, plans, and standards applicable to the protection of visual resources?

No. As discussed in Section 3.18.2, Applicable Regulations, Plans and Standards, the Project would conform with relevant local plans, policies and ordinances. Assuming that these standards are enforced for all other cumulative projects, they would conform with the policies and ordinances discussed previously.

Would the presence of the AEWP add to a cumulative visual alteration?

Yes, as discussed above.

Would the presence of the AEWP add to a cumulative visual degradation within the BLM CDCA Plan?

No. The AEWP would be consistent with the IVRM Class IV management objectives within the project study area.

4.18.11 Mitigation Measures

MM 4.18-1 **Reduction of Visual Contrast, Light, and Glare.** Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall provide evidence of the following:

a. The project proponent shall identify construction laydown areas using already disturbed and/or are in locations of low visual sensitivity.

b. For overhead transmission lines, tubular steel poles shall be used instead of lattice steel towers. Tubular steel poles shall be painted light-gray colors or shall be dulled galvanized steel or other non-reflective surface. All aboveground structures (tubular steel poles, cross-arms, insulators, etc.) specified for this project shall be made of materials that do not reflect or refract light. All conductors specified for the project shall be non-specular, that is, they shall be treated at the factory to dull their surfaces to reduce their potential to reflect light.

c. The Project Proponent shall submit to the BLM for review and approval a lighting mitigation plan that includes the following:

1. Location and direction of light fixtures that take the lighting mitigation requirements into account;
2. Lighting design that considers setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;
3. Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
4. Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the Project boundary, except where necessary for security;
5. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
6. Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

MM 4.18-2 **Verification of Low Contrast Facilities and Landscaping.** Prior to final occupancy approval, the Kern County Building Inspector shall verify the following:

a. All substation equipment shall be coated with a low reflectivity, neutral finish. All insulators at the substations shall be non-reflective and non-refractive. The chain-link fences surrounding the substations shall have a dulled, darkened finish to reduce contrast with its surroundings.

b. Each wind turbine generator shall be painted a uniform light-gray color, such as, "RAL 7035" or similar, per manufacturer's requirements. In order to minimize the reflectivity of the structures, the paint to be used shall have a gloss level that does not exceed 30 percent, or 60-70 gloss units, as calculated by the manufacturer. The surfaces of all other structures (substations, operation and maintenance building, etc.) shall be given low reflectivity finishes with neutral desert tan colors to minimize the contrast of the structures with their backdrops.

c. Grading and landscape treatment around tower bases shall match conditions of surrounding landscape and habitat to recreate a pleasing visual environment.

MM 4.18-3 **Screening and Restoration.** The project proponent shall continuously comply with the following:

a. All operation and maintenance areas shall be kept clean and tidy by storing all equipment, parts, and supplies in areas that are screened from view and/or are generally not visible to the general public.

b. The project proponent shall remove derelict wind turbine generators and derelict parts and pieces within 60 days of decommissioning, and shall relocate such equipment, derelict parts and pieces to an area that is screened from view and/or is not visible to the general public.

c. The project proponent shall re-vegetate disturbed soil as specified in the approved Habitat Restoration and Re-vegetation Plan.

MM 4.18-4 **Comply with Lighting Standards.** The project proponent shall continuously comply with the following measures with regard to lighting:

a. All outdoor and exterior lighting shall be the minimum required to meet safety and security standards. All light fixtures shall be hooded and/or shielded to eliminate any potential for glare effects, to prevent light from spilling off the site or up into the nighttime sky, and to minimize the potential for light trespass. In addition, the fixtures shall have sensors and switches to permit the lighting to be turned off when it is not required.

b. Should new Federal Aviation Administration (FAA) regulations or recommendations for night lighting that reduces the number of lights or overall nighttime aesthetic impacts be approved during the life of the project, the project proponent shall consult with the Kern County Planning and Community Development Department as to the duration of time and need to feasibly implement the new standards. Feasibility of retrofitting wind turbine generators is based on the determination that the system is compatible with the turbine manufacturer warranty and that the one-time cost is not to exceed $9,500 per installed turbine with an FAA light. Should the total to retrofit all existing lighting exceed the amount specified above, the project proponent shall consult of the Kern County Planning and Community Development Department as to which wind turbine generators shall be replaced.

MM 4.18-5 Evaluate and Implement PCT Route Enhancement. ~~Prior to the issuance of a Notice to Proceed by the BLM~~ In order to mitigate for impacts that do not substantially interfere with the nature and purpose of the PCT, the project proponent shall consult and coordinate with the U.S. Forest Service, the BLM, and the Pacific Crest Trail Association to develop ~~a route enhancement plan~~ an off-site mitigation plan for the PCT. The plan shall be submitted for review and approval to the BLM and U.S. Forest Service prior to BLM issuing a Notice to Proceed and commissioning of the wind turbines. The ~~report~~ plan shall identify ~~PCT options, developed under the direction of the federal agencies, which provide for trail relocations, enhancements, or additions that will benefit visitors~~ feasible land acquisition opportunities to protect the PCT corridor and to improve the PCT recreation and scenic opportunities commensurate with the recreation and visual impacts. The provisions shall be designed to apply to those areas where the project would be most visible from the existing trail. If directed by the BLM, in consultation with the U.S. Forest Service, the project proponent shall provide funds for acquisition within one year of issuance of the wind turbine generator building permit.

~~If directed by the BLM, the project proponent shall be responsible for constructing those new trail segments, enhancements, or modifications and restorations as identified in the final approved plan. All construction, restoring and disturbance activities shall be conducted in manner acceptable to the BLM and U.S. Forest Service. Any Trail construction, restoration, enhancement or modifications shall be completed within one year of issuance of the first wind turbine generator building permit.~~

Land acquisition will be based on the concepts developed in the *Draft Pacific Crest National Scenic Trail Best Management Practices to Mitigate Scenery Impacts from Conflicting Land Uses* (USFS, BLM June 2012). Under these Best Management Practices (BMP), the mitigation ratio for land acquisition is calculated by using the distance of the project from the PCT, the distance along the trail that the project is visible to trail users, and the contrast created by the project to the characteristic scenery. Under the preferred alternative, the closest the project is to the trail is 1.2 miles (middleground distance zone), is visible to trail users for approximately 1.5 miles, and creates a moderate to high contrast to the characteristic scenery. Using this scenario, the ration for land acquisition would be 1:1. Thus, the acres to be acquired off-site for mitigation to impacts to 1.8 square miles would be 1,152 acres.

4.18.12 Residual Impacts After Mitigation

Land scarring and vegetation clearance. It is expected that even with effective implementation of Mitigation Measure 4.18-3 (Screening and Restoration), the residual impacts associated with land scarring and vegetation clearance would remain for several years given the difficulty of successful revegetation in an arid environment. This would result in an unavoidable, long-term, adverse impact to visual resources.

Night lighting. AEWP, in conjunction with both existing and reasonably foreseeable cumulative projects, is not expected to create a new source of substantial light that would adversely affect nighttime views in the area. Specifically, motion activated safety and security lighting is to be installed at the substation, interconnection switchyard, and O&M buildings. Furthermore, the effective implementation of the lighting control steps contained in Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) would ensure that night lighting impacts are reduced to the degree feasible; however an unavoidable, long-term, adverse impact to visual resources.

4.19 Water Resources

4.19.1 Methodology for Analysis

This section describes effects on water resources, including hydrology and water quality impacts that would be caused by implementation of the Alta East Wind Project (AEWP) and alternatives. The following discussion addresses potential environmental impacts associated with implementation of the AEWP and recommends measures to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the AEWP and alternatives. A discussion of cumulative impacts related to water resources is also included in this section. Impacts to water resources were identified based on the predicted interaction between construction, operation, and decommissioning and the environmental setting.

This analysis first established baseline conditions for the environmental setting relevant to water resources, presented in Section 3.19 of this Proposed Plan Amendment, Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR). These baseline conditions were evaluated based on their potential to be affected by construction activities, operation and maintenance activities, and decommissioning of the AEWP or an alternative.

4.19.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on water resources if it would:

WA-1 Violate any water quality standards or waste discharge requirements;

WA-2 Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed;

WA-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on site or off site;

WA-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on site or off site;

WA-5 Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

WA-6 Otherwise substantially degrade water quality;

WA-7 Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

WA-8 Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

WA-9 Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam;

WA-10 Contribute to inundation by seiche, tsunami, or mudflow.

WA-11 Adversely affect existing or planned wastewater treatment systems or requirements, including through the following: Exceed wastewater treatment requirements of the applicable Water Quality Control Board; Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; and/or Result in a determination by the applicable wastewater treatment provider that serves or may serve the project that adequate capacity is available to serve the project's projected demand in addition to the provider's existing commitments.

Regarding housing (Significance Criterion WA-7), the AEWP does not include the construction of any residential units, and would not introduce new housing to the area. Regarding flooding impacts associated with the failure of a levee or dam (Significance Criterion WA-9), there are no levees or dams located within close enough proximity to the AEWP site such that flooding hazards from possible failure would occur; the closest dam is the Lake Isabella dam, which is located roughly 37 miles north of the AEWP. Additionally, any potential impacts associated with flooding would be addressed under the fourth significance criterion listed above. Therefore, Significance Criteria WA-7 and WA-9 are inapplicable or would result in no impact and are not addressed further in the impact analysis presented in this section

Regarding inundation by seiche, tsunami, or mudflow, (Significance Criterion WA-10), the AEWP site is not close to a body of water that could result in a seiche or tsunami such that inundation hazards would be introduced; therefore, in addressing potential impacts under this criterion, only the potential for inundation by mudflow is discussed.

4.19.3 Alternative A: Project Alternative

4.19.3.1 Direct and Indirect Impacts

Construction of the AEWP would be subject to County, State, and federal water quality regulations, which are introduced in Section 3.19.2 of this EIS/EIR. If AEWP-related construction, maintenance, or decommissioning activities would result in the violation of any water quality or waste discharge standards, then a significant impact to hydrology and water quality would occur. Such violations could occur through the creation of erosion, sedimentation, and/or polluted runoff, through the accidental release of potentially hazardous materials required during construction or operational activities, or through the discharge of contaminated groundwater during dewatering activities. Each of these potential issues is discussed below, as relevant to construction, operation and maintenance, and decommissioning of the AEWP. It is anticipated that the AEWP would comply with all applicable water quality standards and waste discharge requirements.

Mitigation Measure 4.19-3 (Demonstrate Compliance with Water Quality Permits), presented below in Section 4.19.11 (Mitigation Measures), requires the Proponent to demonstrate compliance with all applicable permitting requirements prior commencing construction, which will ensure that the AEWP is in compliance with all applicable water quality permits and waste discharge requirements associated with construction, operation, and decommissioning activities. Therefore, potential impacts associated with permit compliance are the same for all three AEWP phases, and are not addressed further in this discussion for Alternative A.

Construction

Construction of the AEWP would require a water supply for concrete batching, road construction/, and dust suppression. Construction water supply requirements for the AEWP are anticipated to be 170,000

gallons per day during the nine- to 12-month construction period, which translates to a total of 113 to 150 acre-feet of water for project construction.

As described in Section 2.1.3 of this EIS/EIR, the water required for construction will be obtained from local purveyors in the Mojave area (Mojave Public Utility District [MPUD]) and/or in the Tehachapi area (Tehachapi-Cummings County Water District [TCCWD]); and construction water would not be pumped by the Proponent from the Fremont Valley Groundwater Basin. The AEWP site is not in the service area of either MPUD or TCCWD; however, it is anticipated that temporary construction water could be purchased from MPUD and/or TCCWD and then trucked to the site to be used outside of the districts' service area(s) at the discretion of the water purveyor. Each water purveyor has meters available for rent to customers. For the purposes of AEWP construction, a one-time purchase agreement for the duration of construction to supply up to 150 acre-feet of water would be secured by the Proponent's designated Engineering Procurement and Construction (EPC) Contractor from one or both of the aforementioned water purveyors. The EPC contractor would be required to coordinate with these water purveyors and would ensure that procurement of water for AEWP construction purposes is in compliance with all federal, State, and local laws and ordinances; including the mitigation measures listed below (CH2MHILL, 2011d).

Potable water would also be required for construction workers, and would be transported to the construction area from an off-site commercial bottled water provider. Temporary portable toilet facilities would be provided for sanitary purposes during the construction phases.

Groundwater Supply and Recharge

As described above, construction water associated with the proposed AEWP would be obtained from MPUD and/or TCCWD, and would not be pumped by the Proponent from the local Fremont Valley Groundwater Basin. As described in Section 3.19.2.2, MPUD provides a portion of its water supply as groundwater retrieved from the Chaffee and Proctor Sub-units of the Antelope Valley Groundwater Basin, while TCCWD provides a portion of its water supply as groundwater from three court-adjudicated basins, including the Cummings Basin, Brite Basin, and Tehachapi Basin. Both MPUD and TCCWD also provide a portion of their supply as imported water from the California State Water Project (SWP), and manage their supplies under existing management plans. Therefore, the following is a review of the AEWP's potential impact on groundwater supply for those basins utilized by potential suppliers of construction water.

Construction of the AEWP could result in an impact to groundwater supply and recharge if one of the following occurs:

- The AEWP would pump groundwater from a basin that is currently characterized by long-term overdraft conditions;
- AEWP activities would result in long-term overdraft conditions;
- Substantial drawdown occurs at groundwater wells in the area as a result of AEWP-related groundwater pumping; and/or
- Construction activities redirect natural recharge to groundwater basin(s), such as through the introduction of impervious areas that prevent infiltration.

Each of the potential conditions listed above is discussed below with regards to the AEWP.

Overdraft and Drawdown. Groundwater overdraft occurs when the quantity of water removed from a groundwater basin exceeds the rate of recharge to that basin; this effect may be long-term, where substantial permanent new groundwater demands are introduced, or this effect may be short-term and seasonal, where new groundwater demand(s) are introduced but are temporary, such that the existing balance of groundwater removal and recharge is restored once the new demand(s) ceases. Drawdown occurs when

groundwater pumping at one well lowers the aquifer level such that other wells in the vicinity experience an increased depth to groundwater, requiring greater energy to draw the same volume of water from affected wells. Overdraft and drawdown conditions can be temporary, depending upon the intensity and duration of activities that cause such conditions to occur; for example, the introduction of intensive pumping activities at an existing well may cause localized overdraft conditions and/or drawdown effects, and such effects would cease to occur once the intensive pumping is also ceased.

As described above, construction water associated with the proposed AEWP would be obtained from MPUD and/or TCCWD, and would not be pumped by the Proponent from the Fremont Valley Groundwater Basin. The following bullets discuss each of these water purveyors, with regards to the potential for the Proposed Action's construction water requirements to result in adverse effects associated with groundwater supply and recharge.

- **Mojave Public Utility District.** As described in Section 3.19.2.2, approximately 75 percent of the water supply provided by MPUD is groundwater pumped from the Chaffee and Proctor sub-units of the Antelope Valley Groundwater Basin (Kern County, 2003; Boyle, 2004). MPUD water supply is managed and distributed in accordance with an Urban Water Management Plan (UWMP), which includes measures to ensure water supply reliability. This UWMP includes water supply reliability projections under varying climatic conditions, and determines that sufficient water supply is available to meet the needs of MPUD customers, with consideration to growing demands associated with residential, commercial, industrial, and public facility uses (Boyle, 2004; CH2MHILL, 2011d). Use of MPUD water supply to meet the temporary water requirements of the proposed AEWP would occur in compliance with a one-time purchase agreement for up to 150 acre-feet of water, and would not result in an adverse impact to groundwater supply.
- **Tehachapi-Cummings County Water District.** Also as described in Section 3.19.2.2, TCCWD is the court-designated Watermaster responsible for managing three adjudicated groundwater basins, and provides groundwater supply in compliance with court-designated pumping allocations for agricultural, municipal, and industrial purposes. TCCWD also distributes imported SWP water supplies obtained through contracts with the Kern County Water Agency, in compliance with the Greater Tehachapi Area (GTA) Specific Plan, Appendix I, Updated Water Supply Assessment (CH2MHILL, 2011d). Use of TCCWD water supply to meet the temporary water requirements of the proposed AEWP would occur in compliance with the court-designated pumping allocations and consistent with the GTA Specific Plan, under a one-time purchase agreement for up to 150 acre-feet of water, and would not result in an adverse impact to groundwater supply.

The temporary construction water requirements of the proposed AEWP for up to 150 acre-feet of water would not result in adverse impacts to groundwater supply, including as related to overdraft and drawdown, because this use would occur under existing water supply management plans for MPUD and/or TCCWD and be consistent with a one-time purchase agreement for the AEWP. Groundwater overdraft and drawdown related to AEWP operation are further discussed below, under "Operation and Maintenance." No impacts to groundwater supply in the Fremont Valley Groundwater Basin would occur as a result of construction of the proposed AEWP because no water would be withdrawn from that basin in relation to the project. Other aspects of AEWP construction that could potentially affect groundwater resources include the redirection of natural recharge to groundwater basin(s), such as through the introduction of impervious areas that prevent infiltration, and/or the potential for ground disturbance to result in the unexpected encountering of shallow groundwater resources that may require dewatering actions. These potential effects associated with groundwater recharge and construction site dewatering are discussed below.

Groundwater Recharge. The proposed AEWP is underlain by the Fremont Valley Groundwater Basin. Creation of new impervious surfaces associated with the AEWP could interfere with groundwater recharge by reducing the amount of surface area through which precipitation and surface water percolates

to underlying aquifers. New impervious surfaces would result from the implementation of permanent AEWP components, including the concrete foundations, Operation and Maintenance (O&M) facility, access roads, and substation. In addition to permanent infrastructure, temporary construction facilities including covered assembly areas, concrete batch plant, staging areas, and temporary parking areas would also introduce new impervious areas that could affect the rate and distribution of surface water percolation/infiltration to underlying groundwater. Table 2-3 (Alternative A, Approximate Dimensions of Project Components and Estimated Temporary and Permanent Land Disturbance) notes that the AEWP would result in temporary disturbance to 657.90 acres of the 2,575-acre AEWP site, or approximately 25.5percent of the overall AEWP site. Temporary disturbance associated with construction of the AEWP would be site-specific and is not anticipated to adversely affect recharge in the Fremont Valley Groundwater Basin as those disturbance would not result in the addition of impervious surfaces. The effect of impervious surfaces are address below.

Construction Site Dewatering. Construction of the AEWP would require excavation activities that may encounter shallow groundwater and require construction site dewatering activities. Depth to groundwater at the AEWP site is not known; however, the Plan of Development for the AEWP describes that WTG foundations would typically be about eight feet deep, while depth to groundwater is anticipated to be at least 25 feet. It is possible that unconfined shallow groundwater, or "perched groundwater," may be present in parts of the basin, at depths shallower than 25 feet. Perched groundwater may be ephemeral in nature, occurring in direct response to precipitation events, or it may be recharged by percolation from surface water and/or nearby saturated zones. Perched groundwater is essentially a subsurface zone of saturation that is typically separated from the main groundwater table by an impermeable divide. It is not possible to quantify the likelihood of encountering perched groundwater because it is not part of the main groundwater resource and would not be detected in typical groundwater monitoring activities. If AEWP excavation results in the unexpected encountering of perched groundwater, the local groundwater supply could be adversely affected as a result of directly encountering construction vehicles and equipment, and encountering the potentially hazardous materials such as motor oil and lubricating fluids required to operate vehicles and equipment, and/or the local groundwater supply could be adversely affected due to uncontrolled release of groundwater onto the surface. If perched groundwater is unexpectedly encountered during AEWP construction, dewatering activities should occur in compliance with the California Stormwater Quality Association's (CASQA) California Stormwater BMP Handbook for Construction, or other similar guidance document. Implementation of BMPs and Mitigation Measure 4.19-6 (Construction Site Dewatering Management), presented in Section 4.19.11, would minimize and/or avoid potential impacts resulting from dewatering.

As previously mentioned, on-site groundwater well(s) would not be used to meet construction requirements with water from the Fremont Valley Groundwater Basin, and construction of the proposed AEWP would not result in adverse impacts associated with groundwater overdraft and drawdown. As discussed above, construction of the proposed AEWP is also not anticipated to result in significant effects associated with alteration of groundwater recharge rates and/or patterns, or with construction site dewatering, if shallow groundwater is encountered during ground-disturbing activities. The following discussion assesses potential surface water impacts associated with AEWP construction.

Surface Water and Drainage Patterns

Existing drainage patterns on the AEWP site are characterized by ephemeral drainages that contain water only after precipitation events sufficient to produce runoff. Alterations to drainage patterns on and surrounding the AEWP site associated with construction activities could result in erosion and/or flooding effects on- or off-site. The rate and amount of surface runoff which characterizes drainage patterns in the area is determined by multiple factors, including the following: precipitation and evaporation; infiltration of precipitation and imported water to groundwater; and topography. These factors are discussed below

with regard to the AEWP's potential to affect drainage patterns of the site in a manner that results in erosion and/or flooding on or off site.

- **Precipitation and Evaporation.** Construction of the AEWP would have no effect on the amount or intensity of precipitation that occurs in the AEWP area. Regarding evaporation, the placement of permanent AEWP infrastructure could result in localized decreased rates of evaporation, if the infrastructure results in shading that cools the ground to such a degree that less moisture converts from liquid to vapor form. Table 2.2 (Acres of Disturbance for AEWP) describes that the AEWP would result in permanent disturbance to 93.98 acres of the 2,575-acre AEWP site, or 3.6 percent of the overall site. Due to the area of permanent disturbance compared to the overall size of the site, AEWP infrastructure would have no meaningful effect on ground temperature across the site, or on associated rates of evaporation.
- **Infiltration of Precipitation and Imported Water.** As described in the analysis of groundwater recharge effects ne;pw, construction activities associated with the AEWP would introduce new impervious surfaces that could affect site-specific infiltration patterns, but such effects would not result in substantial impacts to groundwater supply given the area of permanent disturbance relative to the overall area of the site. Although some water would be required for road maintenance, resulting in the application of imported water that would not otherwise be present at the site, such water would be specifically applied where required for road maintenance and is not anticipated to have any practicable effect on infiltration rates or drainage patterns.
- **Topography.** Construction of the AEWP would include grading and excavation activities associated with turbine foundations and crane pads, batching plant and laydown/parking area, access roads, collector lines, meteorological towers, substation/utility switchyard, O&M facility, and gravel sources. Per the data presented in Table 2.3 (Alternative A, Approximate Dimensions of Project Components and Estimated Temporary and Permanent Land Disturbance), 657.90 acres of the 2,575-acre site would be temporarily disturbed during construction of the AEWP, or approximately 25.5 percent of the overall site. This disturbance would affect site-specific topography, but as mentioned above, permanent disturbance would only occur on 3.6 percent of the AEWP site. The overall topography of the AEWP site would not be substantially altered due to AEWP construction, although localized changes to drainage patterns would occur.

It is anticipated that any increase in surface water runoff resulting from permanent AEWP features would be location-specific, and that such effects would not influence surface runoff in a manner which would result in erosion or flooding on- or off-site. As described in Section 2.1.3, the AEWP includes water bars, similar to speed bumps, that would be cut into the roads in areas where needed, to allow for natural drainage of water over the road surface and to prevent road washout. V ditches and culverts would be installed, where necessary, to handle excess drainage water. All roadwork would be performed under final approved grading, erosion control, and stormwater quality management plans. Excess excavated soil and rock would be disposed of onsite at approved disposal areas, such as eroded gullies and ravines. Larger excavated rocks also would be disposed of at approved sites or crushed and re-used onsite as backfill or roadway material.

In addition to the above, the AEWP's potential to alter the existing drainage pattern(s) of the site would also be minimized through compliance with design specifications and BMPs identified by the BLM, listed in Section 4.19.11. Implementation of the mitigation measures 4.19-2 and 4.19-4 as listed in Section 4.19.11 would avoid and/or minimize potential impacts to surface waters and drainage patterns.

Jurisdictional Drainages. Surface water and drainage patterns could be adversely affected if jurisdictional drainages are disturbed or altered as a result of AEWP construction, operation, or decommissioning. As described in Section 3.19.1.1, designated jurisdictional drainages are located throughout the AEWP site and construction of the AEWP would result in features such as access roads and collector lines intersecting ephemeral streams in 99 locations, with associated dredge/fill impacts of approximately

five acres. As described in the Jurisdictional Wetlands and Other Waters report prepared for the AEWP, any excavation or fill placement within jurisdictional features would require authorization under Waste Discharge Requirements (WDRs) per the Porter Cologne Water Quality Control Act and to be issued by the Lahontan Regional Water Quality Control Board (RWQCB). For construction projects having small dredge/fill impacts to non-federal waters of the State, and that are not required to obtain a National Pollutant Discharge Elimination System (NPDES) permit (such as the AEWP), coverage under general WDRs may be obtained from the Lahontan RWQCB (R6T-2003-0004). Discharges of fill into waters of the State have been authorized under these WDRs for other wind energy projects in the AEWP vicinity (CH2MHILL, 2011l).

Stormwater Drainage Systems

No stormwater drainage system exists at the AEWP site. Construction of the AEWP would include implementation of BMPs to minimize and/or avoid potential impacts associated with stormwater runoff. Other stormwater diversion and/or other run-off control channels are not planned for the AEWP because overall disturbance to the site is not anticipated to substantially change the hydrologic patterns of the area or alter the amount of stormwater runoff from the site. The AEWP would not have the potential to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. It is not anticipated that any mitigation measures would be required to address potential effects to existing or planned stormwater drainage systems; however, in order to ensure that no impact would occur, Mitigation Measure 4.19-1 (Approval of Sewage Disposal), presented in Section 4.19.11 is required (see Sections 4.19.11 and 4.11 for the full text of mitigation measures).

Construction of the AEWP could contribute sources of polluted runoff if an accidental leak or release of harmful materials occurred during construction activities. Potential water quality impacts are discussed in detail below. The AEWP's potential to contribute polluted runoff to existing or planning stormwater drainage system(s) would be minimized through compliance with design specifications and BMPs identified by the BLM, listed in Section 4.19.11, as well as mitigation measures listed in in full in Sections 4.19.11 and 4.11.

Flood Hazard Areas

As described in Section 3.19.1.1, a Zone A (100-year) Flood Hazard Area designated by FEMA is along Cache Creek, in the northern AEWP area. According to FEMA, development is permitted in Flood Hazard Areas provided that the development complies with local floodplain management ordinances. AEWP would fully comply with all applicable floodplain management ordinances in accordance with FEMA's regulations on development in Flood Hazard Areas. The permanent aboveground features associated with the AEWP would be designed and engineered to withstand potential flooding and erosion hazards. Impacts associated with Flood Hazard Areas would be most likely to occur where permanent infrastructure and facilities are constructed in or closely adjacent to a watercourse and/or designated Flood Hazard Area. Routine operations and maintenance procedures would include the inspection and repair of any AEWP infrastructure that may be damaged as a result of heavy flood events. Construction and operation of the AEWP would have no effect on the potential or frequency of flood events.

The AEWP's potential to result in impacts associated with Flood Hazard Areas would be minimized through compliance with BMPs identified by the BLM, listed in Section 4.19.11. In addition, implementation of mitigation measures provided in Section 4.19.11 would be required in order to avoid and/or minimize potential impacts associated with Flood Hazard Areas. Please see Section 4.19.11 for the full text of mitigation measures.

Water Quality

Degradation of surface water quality and/or groundwater quality could occur through the effects of sedimentation, and/or through the accidental release of hazardous materials. Soil-disturbing activities that

would occur during construction of the AEWP, including excavation and grading, would have the potential to result in erosion (transport) and sedimentation (delivery) that could degrade water quality. This impact would be most likely to occur if a storm event occurs during construction activities, while disturbed soils are exposed and/or have not yet been re-vegetated. In addition, particularly within and adjacent to designated Flood Hazard Areas, surface water runoff could occur as sheet flow, which could increase the potential for erosion of unmanaged disturbed and/or stockpiled soil.

In addition to the potential effects of erosion and sedimentation, the accidental release of hazardous materials during construction of the AEWP could result in water quality degradation within and downstream of the AEWP site. Potentially hazardous materials that may be used and/or produced during construction include but are not limited to the following: diesel fuel, gasoline, lubricant oils, hydraulic fluid, antifreeze, transmission fluid, lubricant grease, cement slurry, and other fluids required for the operation of construction vehicles and equipment. Motorized equipment used at the AEWP site during construction could leak hazardous materials, such as motor oil, transmission fluid, or antifreeze, due to inadequate or improper maintenance, unnoticed or unrepaired damage, improper refueling, or operator error. Direct contact with potentially hazardous materials would result from a spill or leak that occurs directly above or within the bed and banks of a flowing stream or waterbody. Because surface water on the AEWP site is ephemeral in nature, direct contamination as a result of accidental release is considered unlikely, unless a precipitation event occurs during active construction activities. Indirect contamination of surface water could occur if a potentially harmful or hazardous material is released into a dry stream bed or wash and is subsequently transported through runoff during a storm event, eventually making contact with perennial flowing water. Groundwater resources could also be contaminated through indirect contact with potentially harmful or hazardous materials. This could occur if an accidental spill of harmful materials is allowed to leach through the ground surface to underlying groundwater resources, or if construction-related excavation activities encounter perched groundwater and direct contact with hazardous materials occurs.

As described in Section 1.3.11 (Waste and Hazardous Materials Management) of the AEWP's Plan of Development, construction equipment and O&M vehicles would be properly maintained at all times to minimize leaks of motor oils, hydraulic fluids, and fuels. During construction, refueling and maintaining vehicles that are authorized for highway travel would be performed offsite at an appropriate facility. Construction vehicles that are not highway-authorized would be serviced on the AEWP site by a maintenance crew using a specially designed vehicle maintenance truck. During operation, O&M vehicles would be serviced and fueled at the O&M building or at an offsite location. A Spill Prevention Control and Countermeasure (SPCC) plan would be prepared for the AEWP and would contain information regarding training, equipment inspection and maintenance, and refueling for construction vehicles, with an emphasis on preventing spills. Additionally, a Hazardous Materials Business Plan would be implemented for the AEWP and would contain specific information regarding the types and quantities of hazardous materials, as well as their production, use, storage, transport, and disposal. This plan would be included as a requirement of the ROW grant for the proposed AEWP.

The AEWP's potential to contribute to water quality degradation would be minimized through compliance with design specifications and BMPs identified by the BLM, listed in Section 4.19.11, as well as mitigation measures listed in Sections 4.19.11 and 4.11, Please see Sections 4.19.11 and 4.11 for the full text of mitigation measures.

Mudflow Hazards

The AEWP is not near an ocean or enclosed body of water, and would not be subject to inundation by seiche or tsunami. Mudflows are a type of mass wasting or landslide, where earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow events are caused by a combination of factors, including soil type, precipitation, and slope. Mudflow may be triggered by heavy rainfall that

the soil is not able to sufficiently drain or absorb. As a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location.

The AEWP's potential to contribute to mudflow impacts would be minimized through compliance with design specifications and BMPs identified by the BLM, listed in Section 4.19.11, as well as mitigation measures listed in full in Sections 4.19.11 and 4.11.

Wastewater Treatment

As described in Section 2.1.2.7 (Best Management Practices: Hazardous Materials and Waste Management), construction of the AEWP would include use of portable sanitary facilities, and any wastewater generated in association with these facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities. Construction of the AEWP would not adversely affect existing or planned wastewater treatment systems; no impact would occur.

Operation and Maintenance

Operation of the AEWP would require a water supply of 200 gallons per day, or 0.224 acre-feet per year (afy) for the O&M building. As described in Section 2.1.3 of this EIS/EIR, operational water would be pumped from on-site groundwater well(s), drawing water from the Fremont Valley Groundwater Basin. Potable water would also be required for operation and maintenance workers, and would be transported to the construction area from an off-site commercial bottled water provider.

Groundwater Supply and Recharge

Operation of the AEWP could result in an impact to groundwater supply and recharge if one of the following occurs:

- The AEWP would pump groundwater from a basin which is currently characterized by long-term overdraft conditions;
- AEWP activities would result in long-term overdraft conditions;
- Substantial drawdown occurs at groundwater wells in the area as a result of AEWP-related groundwater pumping; and/or
- Operational activities redirect natural recharge to groundwater basin(s), such as through the introduction of impervious areas that prevent infiltration.

Each of the potential conditions listed above is discussed below with regards to operation and maintenance of the AEWP.

Overdraft and Drawdown. Section 3.19.1.1 (Groundwater) describes that the Fremont Valley Groundwater Basin, which underlies the AEWP site, has a total storage capacity of 4,800,000 acre-feet and that the groundwater budget and overdraft conditions are not currently known (DWR, 2004). Those areas of the Fremont Valley Groundwater Basin closest to the project site (southwest portion of the basin) experienced declining groundwater elevations by nine (9) feet between 1957 and 1999 (DWR, 2004). This trend has not been reported throughout the basin and therefore is not considered to indicate basin-wide overdraft conditions. As described in Section 3.19.1.1, uneven tilting of the Koehn Lake playa indicates that overdraft conditions may be present in parts of the Fremont Valley Groundwater Basin, and water withdrawn from this basin to support the AEWP's operational water requirements may contribute to overdraft and/or subsidence issues. However, groundwater quality issues have not been reported on the AEWP site or immediate vicinity, including by residences that rely on local groundwater resources for

residential uses, and the site and surrounding area do not appear to be affected by subsidence. Therefore, it is possible that overdraft conditions are not present at the AEWP site.

A detailed groundwater budget for the Fremont Valley Groundwater Basin is not available, due to a lack of long-term quantitative data, and it is therefore not possible to quantify the presence or absence of overdraft conditions in the basin. If on-site groundwater well(s) are used to obtain operational water from the Fremont Valley Groundwater Basin, as proposed, Mitigation Measure 4.19-5 (Develop a Water Supply Contingency Plan) would be required. Additionally, BMPs identified by the BLM would be implemented to minimize potential impacts. Please see Sections 4.19.11 and 4.11 for the full text of mitigation measures.

The O&M well used during AEWP operations would be in an area with favorable hydrogeologic properties. Installation and operation of the well will be completed by a separate contractor, and execution of that work will be in compliance with all federal, state, and local laws and ordinances (CH2MHILL, 2011d). If use of on-site groundwater well(s) to meet the AEWP's operational water requirements is not feasible, operational water needs can be met by purchase of water from local sources (MPUD and/or TCCWD); such water would be transported to the site by truck and stored in an on-site tank adjacent to the O&M building. As described in the WSA prepared for the AEWP, sufficient water supply is available through MPUD and/or TCCWD to meet AEWP operational water requirements under varying climatic conditions over a projection of 20 years (CH2MHILL, 2011d).

Groundwater Recharge. Operation and maintenance of the AEWP would not introduce any new impervious surfaces (in addition to those facilities introduced during AEWP construction) that could interfere with groundwater recharge by reducing the amount of surface area through which precipitation and surface water percolates to underlying aquifers. Table 2-3 (Alternative A, Approximate Dimensions of Project Components and Estimated Temporary and Permanent Land Disturbance) notes that following the completion of construction, the AEWP would result in permanent disturbance to 93.98 acres of the 2,575-acre AEWP site, or approximately 3.6 percent of the overall AEWP site. Permanent disturbance associated with the AEWP is not anticipated to affect recharge in the Fremont Valley Groundwater Basin.

Construction Site Dewatering. Operation of the AEWP would not include any major ground-disturbing activities, and it is not anticipated that dewatering activities would be necessary.

Water Supply Reliability. As described in Section 3.19.2.2 (see "Senate Bill 267"), groundwater use during operation of the proposed AEWP would not meet the 75-afy threshold which defines an action as a "Project" under Senate Bill 610, thus requiring preparation of a Water Supply Assessment (WSA) to determine long-term water supply reliability. Implementation of the mitigation measures described above would minimize the potential for the use of an on-site groundwater well(s) during AEWP operations to result in adverse water supply reliability impacts. Also as mentioned above, if use of an on-site groundwater well(s) during AEWP operations is not feasible, operational water may be purchased from MPUD and/or TCCWD and transported to the site via truck. The WSA prepared by the Proponent and included as Appendix I to this EIS/EIR determines that sufficient water supply is available through MPUD and TCCWD to meet the AEWP's water requirements during normal-year, single-dry-year, and multiple-dry-year conditions over a projection of 20 years (CH2MHILL, 2011d).

Surface Water and Drainage Patterns

Operation and maintenance of the AEWP would include the routine maintenance and occasional repair (as needed) of infrastructure installed during the construction period, including occasional re-grading and/or re-graveling of access roads; operation and maintenance would not introduce new infrastructure or alter existing surface water and drainage patterns beyond what is completed during the construction period. Operation and maintenance would not substantially alter existing drainage patters or result in substantial erosion, siltation, or flooding on or off site. No additional mitigation measures are necessary.

Stormwater Drainage Systems

Operation and maintenance of the AEWP would not introduce any new stormwater drainage system(s). As with the potential construction impacts described above, operation and maintenance activities would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Operational activities would include regular inspection and maintenance of AEWP infrastructure to ensure that leaks of potentially harmful fluids such as oil do not occur, or are contained and remediated immediately. Operation and maintenance of the AEWP would not provide substantial additional sources of polluted runoff.

Flood Hazard Areas

As previously discussed, a FEMA-designated Flood Hazard Area is designated along Cache Creek, in the northern portion of the AEWP area, and all permanent infrastructure installed under the AEWP would be designed to withstand potential flooding and erosion hazards. Operation and maintenance activities would not introduce new infrastructure or activities with the potential to impede or redirect flood flows such that new impacts would occur.

Water Quality

Degradation of surface water quality and/or groundwater quality could occur through the effects of sedimentation, and/or through the accidental release of hazardous materials. Soil-disturbing activities that would occur during operation and maintenance of the AEWP would be minimal, characterized by road improvements or repairs as necessary to maintain access throughout the site, and the transport of vehicles and equipment throughout the site as necessary to regularly inspect AEWP infrastructure. These activities would not introduce substantial new potential to result in soil erosion (transport) and sedimentation (delivery) that could degrade water quality. Regarding the potential for operational and maintenance activities to result in the accidental release of potentially hazardous materials, as described above, AEWP infrastructure would be regularly inspected to minimize and/or avoid the potential for such leaks to occur. In addition, as described in the discussion of potential construction impacts, a Hazardous Materials Business Plan would be implemented for the AEWP and would contain specific information regarding the types and quantities of hazardous materials, as well as their production, use, storage, transport, and disposal; this plan would be included as a requirement of the ROW grant for the AEWP. Operation and maintenance of the AEWP would not introduce substantial new potential for water quality impacts to occur, and no new mitigation measures are required.

Mudflow Hazards

Operations and maintenance of the AEWP would not introduce any infrastructure or activities that would result in new mudflow hazards. No additional mitigation measures are required.

Wastewater Treatment

Operation and maintenance of the AEWP would include the use of a septic system and leach field at or near the O&M building. The septic system and leach field would be permitted through Kern County, thereby ensuring that wastewater treatment requirements are not exceeded. Operation and maintenance of the AEWP would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, and/or result in a determination by the applicable wastewater treatment provider that adequate capacity is available to serve the project.

Decommissioning

Decommissioning of the AEWP would include the removal of the wind turbines, cables, and other infrastructure support facilities. The foundations would be removed to a depth determined by local, State, and

federal regulations; removal of access roads and restoration of disturbed lands would be in accordance with regulations and/or landowners contractual commitments. A decommissioning plan would be developed consistent with the BLM Wind Energy Programmatic EIS and Record of Decision (ROD), and approved by the BLM. The BMPs and stipulations developed for construction activities would be applied to similar activities during the decommissioning phase, including as related to the protection of hydrology and water resources from potentially adverse impacts.

No water requirements associated with decommissioning the AEWP have been identified. However, it is reasonably anticipated that a water source would be required for soil conditioning and dust control associated with earth-disturbing activities that would occur during decommissioning, including but not limited to the removal of concrete foundations, backfilling of foundation holes, and restoration of natural grade. A water source for decommissioning has not been identified; however, it is also reasonably assumed that the same water source used during construction would be used to meet decommissioning requirements. Therefore, for the purposes of this analysis it is assumed that water for decommissioning would be obtained from MPUD and/or TCCWD.

Groundwater Supply and Recharge

The discussion of potential impacts provided above under "Construction" describes specific scenarios that could result in impacts to groundwater supply and recharge. As discussed, the purchasing of water from MPUD and/or TCCWD for use on the AEWP site would avoid potential impacts associated with groundwater overdraft, drawdown, and supply reliability because such actions would occur in compliance with existing management plans, and per a purchase agreement with the water purveyor(s). Potential groundwater impacts of AEWP decommissioning associated with groundwater recharge and dewatering activities are discussed below.

Groundwater Recharge. As described in the discussion of construction impacts, new impervious surfaces resulting from new infrastructure could affect the rate and distribution of surface water percolation/infiltration to underlying groundwater; removal of this infrastructure during decommissioning activities would facilitate restoration of pre-construction recharge rates and patterns. Restoration would include returning the AEWP site as close as reasonably possible to pre-construction conditions suitable for current adjacent land. Therefore, potential effects of decommissioning activities to groundwater recharge are anticipated to be beneficial.

Construction Site Dewatering. Decommissioning of the AEWP would include excavation activities to remove infrastructure and to restore the AEWP site to as close to pre-construction conditions as possible. These excavation activities would include the potential to encounter perched groundwater, or unconfined shallow groundwater, which would require dewatering activities to avoid potentially adverse effects to local groundwater resources. As mentioned above, a decommissioning plan would be implemented prior to decommissioning activities, and would include BMPs consistent with the BLM Wind Energy Program EIS/ROD and similar to the BMPs implemented with construction of the AEWP. As such, dewatering BMPs would be implemented during decommissioning activities, as necessary.

Surface Water and Drainage Patterns

Decommissioning activities would include removal of infrastructure introduced during the construction phase. The discussion of potential impacts that would occur during construction of the AEWP describes that alterations to drainage patterns would occur as a result of new infrastructure, and that such alterations would be location-specific and would not influence surface runoff in a manner which would result in erosion or flooding on- or off-site. Similarly, the removal of infrastructure from the AEWP site would facilitate restoration of the pre-construction drainage patterns, characterized by ephemeral drainages which contain water only after precipitation events sufficient to produce runoff.

The decommissioning plan that would be implemented prior to the termination of the ROW authorization would include BMPs consistent with the BLM Wind Energy Program EIS/ROD, similar to the BMPs implemented with construction of the AEWP (presented below in Section 4.19.11). As such, erosion control measures would be implemented to avoid and/or minimize potential adverse effects associated with alterations to surface water drainage patterns that could result in erosion or siltation on or off site. All roads and tower pads would be restored in accordance with the BLM-approved decommissioning plan. Decommissioning of the AEWP would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff such that erosion, siltation, or flooding on or off site would occur, and no additional mitigation measures are required.

Jurisdictional Drainages. As described in Section 3.19.1.1, designated jurisdictional drainages are located throughout the AEWP site. Access roads required to cross jurisdictional drainages on the site would be designed with at-grade crossings, with no culverts installed. This design would minimize potential effects with altering drainage alignments. Decommissioning activities would include the removal and restoration of access roads on the site. Road restoration would include re-grading as close as reasonably possible to the original ground contours. These activities would ultimately benefit jurisdictional drainages by restoring original contours and removing potential flow diversions associated with access roads, although earth disturbing activities could result in potential erosion and sedimentation impacts to water quality until restoration is complete. Implementation of the decommissioning plan would include BMPs consistent with the BLM Wind Energy Program EIS/ROD and similar to the BMPs implemented with construction of the AEWP (presented below in Section 4.19.11), including as relevant to potential water quality impacts. Other potential impacts of the AEWP on jurisdictional drainages are addressed Sections 4.17 (Vegetation Resources) and 4.21 (Wildlife Resources) of this EIS/EIR.

Flood Hazard Areas

Decommissioning of the AEWP would remove infrastructure from the AEWP site, and would remove potential impacts introduced during construction of the AEWP associated with placing structures within or near a Flood Hazard Area such that flood flows could be impeded or redirected.

Water Quality

Degradation of surface water quality and/or groundwater quality could occur through the effects of sedimentation, and/or through the accidental release of hazardous materials. Soil-disturbing activities that would occur during decommissioning of the Propose Action, including excavation and grading, would have the potential to result in erosion (transport) and sedimentation (delivery) that could degrade water quality. This impact would be most likely to occur if a storm event occurs during decommissioning activities, while disturbed soils are exposed and/or have not yet been re-vegetated. In addition, particularly within and adjacent to designated Flood Hazard Areas, surface water runoff could occur as sheet flow, which could increase the potential for erosion of unmanaged disturbed and/or stockpiled soil.

Decommissioning activities would involve the handling and disposal of substantial quantities of solid wastes and industrial wastes, including fluids such as lubricating oils, hydraulic fluids, and coolants drained from the turbine components; these materials are anticipated to be similar in chemical composition to spent fluids removed during routine maintenance and would be managed in the same manner as analogous maintenance-related wastes. The handling and disposal of these and other potentially hazardous materials during decommissioning of the AEWP would introduce a greater potential for an accidental release and associated water quality degradation to occur; however, as described above, a decommissioning plan would be developed consistent with the BLM Wind Energy Programmatic EIS/, and would require BMPs and stipulations similar to those applied during construction activities, including as related to the proper handling and storage of potentially hazardous materials.

Stormwater Drainage Systems

Decommissioning of the AEWP would not introduce a new stormwater drainage system and would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. As described above, hazardous materials would be handled and disposed of during decommissioning activities, and would introduce the potential for adverse water quality impacts to occur. However, all hazardous and potentially hazardous materials would be handled, stored, and disposed of in compliance with a decommissioning plan to avoid and/or minimize adverse effects, and decommissioning activities would therefore not provide substantial additional sources of polluted runoff.

Mudflow Hazards

Decommissioning activities would remove AEWP infrastructure from the site, and would restore the site to conditions comparable to pre-construction. As such, infrastructure introduced during construction of the AEWP would be removed and would no longer be subject to inundation by mudflow, and potential adverse effects associated with mudflow hazards would be decreased.

Wastewater Treatment

Decommissioning of the AEWP would include abandonment of the septic system and leach field used during operation of the AEWP, in compliance with Kern County permitting requirements, and would not adversely affect existing or planned wastewater treatment systems; no impact would occur.

4.19.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the Significance Criteria presented in Section 4.19.2. Only those significance criteria which were determined in Section 4.19.2 to be relevant to the AEWP are addressed below.

Construction

- **WA-1 (Violate water quality standards or waste discharge requirements).** Construction of the AEWP would occur in full compliance with all applicable standards and requirements. Mitigation Measure 4.19-3 (Demonstrate Compliance with Water Quality Permits) requires the AEWP Proponent to demonstrate compliance with all applicable permitting requirements prior commencing construction, which will ensure that the AEWP is in compliance with all applicable water quality permits and waste discharge requirements. Construction impacts would be less than significant with mitigation.
- **WA-2 (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed).** Construction of the proposed AEWP would not result in adverse impacts to groundwater supply, as the temporary construction water requirement would be supplied by MPUD and/or TCCWD in compliance with existing water management plans and per a one-time purchase agreement for up to 150 acre-feet, which is within the available supply for these purveyors. Impacts associated with the groundwater recharge that could result from the introduction of new impervious surfaces and the potential need to conduct dewatering activities would be less than significant with implementation of BMPs and mitigation measures listed in Section 4.19.11. Mitigation Measure 4.19-4 (Submit a Drainage Design Plan) would ensure that new impervious areas are minimized, and designed to avoid potential adverse effects, including as related to groundwater recharge. Mitigation Measure 4.19-6 (Construction Site

Dewatering Management) would ensure that any required construction site dewatering activities occur in compliance with all applicable BMPs, and that grading and excavation activities are monitored for soil moisture in order to anticipate the need for dewatering activities, and minimize the potential for any related adverse effects. Construction impacts would be less than significant with mitigation.

- **WA-3** and **WA-4 (Substantially alter drainage patterns such that substantial erosion or sedimentation (WA-3) or flooding (WA-4) occur on- or off-site)**. Construction of the AEWP would include earth-disturbing activities and the installation of new infrastructure that would introduce the potential to substantially alter existing drainage patterns of the site, such that erosion, siltation, and/or flooding on or off site could occur. However, with implementation of BMPs and mitigation measures listed in Section 4.19.11, potential impacts would be reduced. Mitigation Measure 4.19-2 (Submit a Road Plan to the BLM and Kern County for Review) would ensure that all planned access roads and spur roads are appropriately designed to minimize or avoid adverse effects, including as related to the potential for erosion, sedimentation, and flooding to occur. In addition, Mitigation Measure 4.19-4 (Submit a Drainage Design Plan) would minimize the potential for the proposed development to accelerate stormwater runoff rates by requiring that alterations to the permeability of surface materials that would occur under the AEWP, such as new surfaces and ground cover, would be as permeable as possible; the Drainage Design Plan would also ensure that downstream drainage discharge points are provided with an appropriate level of erosion protection in order to mimic the natural conditions as much as possible. Please see Section 4.19.11 for the full text of mitigation measures. Construction impacts would be less than significant with mitigation.
- **WA-5 (Create or contribute stormwater runoff or polluted runoff).** The AEWP does not include installation of new stormwater drainage systems, and would not affect existing stormwater drainage systems. Construction of the AEWP would introduce the potential to create additional sources of polluted runoff. Implementation of BMPs and mitigation measures listed in Section 4.19.11 would ensure that potential impacts associated with the creation of polluted runoff would be reduced. Mitigation Measure 4.19-4 (Submit a Drainage Design Plan) would ensure the implementation of BMPs to avoid the introduction of erosion and sedimentation that could create polluted runoff. Please see Section 4.19.11 for the full text of mitigation measures. In addition, the AEWP would include implementation of an SPCC plan and a Hazardous Materials Business Plan to ensure that hazardous materials would be properly handled, stored, and disposed of. Construction impacts would be less than significant with mitigation.
- **WA-6 (Otherwise substantially degrade water quality).** All potential water quality impacts associated with construction of the AEWP are characterized in the impact discussions summarized above; construction of the AEWP would not otherwise substantially degrade water quality. No impact would occur.
- **WA-8 (Place within a 100-year flood hazard area structures which would impede flows).** During construction of the AEWP, new infrastructure would be installed near designated Flood Hazard Areas; construction of the AEWP would therefore introduce the potential to result in significant impacts associated with impeding or redirecting flood flows. Mitigation Measure 4.19-4 (Submit a Drainage Design Plan) would minimize the potential for flooding effects to occur through appropriate design of drainage features and patterns on the AEWP site. With implementation of BMPs and mitigation measures listed in Section 4.19.11, these potential impacts would be reduced. Construction impacts would be less than significant with mitigation.
- **WA-10 (Contribute to inundation by mudflow).** Construction of the AEWP would introduce the potential for infrastructure to be inundated by mudflow, but would not alter the potential for mudflow to occur. With implementation of BMPs and mitigation measures listed in Section 4.19.11, these potential impacts would be reduced. Construction impacts would be less than significant with mitigation.

- **WA-11 (Adversely affect existing or planned wastewater treatment systems or requirements).** Construction of the AEWP would include use of portable sanitary facilities in compliance with County requirements, and would result in less than significant impacts to wastewater treatment systems or requirements.

Operation and Maintenance

- **WA-1 (Violate water quality standards or waste discharge requirements).** Operation of the AEWP would occur in full compliance with all applicable standards and requirements, per Mitigation Measure 4.19-3 (Demonstrate Compliance with Water Quality Permits) which requires the AEWP Proponent to demonstrate compliance with all applicable permitting requirements. Operational impacts would be less than significant with mitigation.
- **WA-2 (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed).** Operational water requirements of the proposed AEWP would be met by pumping water from the Fremont Valley Groundwater Basin using an on-site supply well. Operational water requirements of 0.224 afy are far below the Senate Bill 267 threshold of 75 afy to define an action as a "Project" under Senate Bill 610, and a WSA is therefore not required (although one has been prepared and is included as Appendix I to this EIS/EIR). BMPs and mitigation measures applicable to operation and maintenance of the AEWP are provided in Section 4.19.11. Mitigation Measure 4.19-5 (Develop a Water Supply Contingency Plan) would ensure that the AEWP does not exacerbate long-term overdraft conditions, if present in local groundwater basin(s). Mitigation Measure 4.19-7 (Develop Master Drought Water Management and Water Conservation Education Programs) would ensure that appropriate water conservation efforts are implemented during drought years to avoid adverse water supply effects. If use of an on-site groundwater supply well(s) is not feasible during AEWP operations, 0.224 afy would be purchased from MPUD and/or TCCWD and trucked to the AEWP site; the WSA included as Appendix I indicates that these purveyors have sufficient water supply availability to meet the AEWP's operational water requirements. Operational impacts would be less than significant.
- **WA-3** and **WA-4 (Substantially alter drainage patterns such that substantial erosion or sedimentation (WA-3) or flooding (WA-4) occur on- or off-site).** Operation and maintenance of the AEWP would not substantially alter existing drainage patterns of the site, and potential impacts associated with erosion, siltation, and/or flooding would be less than significant.
- **WA-5 (Create or contribute stormwater runoff or polluted runoff**). Operation and maintenance of the AEWP would include some handling, storage, and disposal of harmful and potentially hazardous materials. The AEWP would also include implementation of an SPCC plan and a Hazardous Materials Business Plan, as well as BMPs for water quality listed in Section 4.19.11. Hazardous materials would be properly handled, stored, and disposed of during operation of the AEWP, and operational impacts would be less than significant.
- **WA-6 (Otherwise substantially degrade water quality).** All potential water quality impacts associated with operation and maintenance of the AEWP are characterized in the impact discussions summarized above. No impact would occur.
- **WA-8 (Place within a 100-year flood hazard area structures which would impede flows).** After the completion of construction activities, no new infrastructure or activities that could introduce significant impacts associated with impeding or redirecting flood flows. Operational impacts would be less than significant.

- **WA-10 (Contribute to inundation by mudflow).** Operation of the AEWP would not introduce new infrastructure and would not alter existing potential for mudflow. Operational impacts would be less than significant.
- **WA-11 (Adversely affect existing or planned wastewater treatment systems or requirements).** Operation of the AEWP would include use of a permitted septic system and leach field to provide wastewater disposal needs at the proposed O&M building location. Mitigation Measure 4.19-1 (Approval of Sewage Disposal) would ensure that the septic system and leach field would be permitted through Kern County, and wastewater treatment requirements would not be exceeded. Operation and maintenance of the AEWP would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Potential impacts associated with wastewater and wastewater treatment during operation and maintenance of the AEWP would be less than significant.

Decommissioning

- **WA-1 (Violate water quality standards or waste discharge requirements).** Decommissioning of the AEWP would occur in full compliance with all applicable standards and requirements, per Mitigation Measure 4.19-3 (Demonstrate Compliance with Water Quality Permits) which requires the AEWP Proponent to demonstrate compliance with all applicable permitting requirements. Decommissioning impacts would be less than significant with mitigation.
- **WA-2 (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed).** Potential impacts of decommissioning associated with the depletion of groundwater resources and interference with groundwater recharge would be comparable to the description provided for AEWP construction, as it is anticipated that water required for decommissioning would be purchased from MPUD and/or TCCWD and trucked to the AEWP site. As with construction, all potential impacts associated with groundwater supply and recharge would be reduced to a less-than-significant level with implementation of BMPs and mitigation measures listed in Section 4.19.11. Decommissioning impacts would be less than significant with mitigation.
- **WA-3** and **WA-4 (Substantially alter drainage patterns such that substantial erosion or sedimentation (WA-3) or flooding (WA-4) occur on- or off-site).** Decommissioning of the AEWP would include earth-disturbing activities including excavation and grading to restore original, pre-construction land contours as much as possible, and these alterations would introduce the potential to cause erosion, siltation, and/or flooding on or off site, similar to such impacts during construction of the AEWP. Implementation of BMPs and mitigation measures listed in Section 4.19.11 would reduce potential impacts. Decommissioning impacts would be less than significant with mitigation.
- **WA-5 (Create or contribute stormwater runoff or polluted runoff).** Decommissioning of the AEWP would include the handling, storage, and disposal of some amounts of harmful and potentially hazardous materials. The AEWP would also include implementation of an SPCC plan and a Hazardous Materials Business Plan, as well as BMPs for water quality listed in Section 4.19.11. Hazardous materials would be properly handled, stored, and disposed of during decommissioning of the AEWP, and impacts would be less than significant.
- **WA-6 (Otherwise substantially degrade water quality).** All potential water quality impacts associated with decommissioning of the AEWP are characterized in the impact discussions summarized above. No impact would occur.

- **WA-8 (Place within a 100-year flood hazard area structures which would impede flows).** The removal of infrastructure from areas near Flood Hazard Area(s) that would occur during decommissioning of the AEWP would decrease adverse effects associated with the construction of such infrastructure and impacts would be less than significant.
- **WA-10 (Contribute to inundation by mudflow).** The removal of infrastructure from areas subject to inundation by mudflow that would occur during decommissioning of the AEWP would decrease adverse effects associated with the construction of such infrastructure and impacts would be less than significant.
- **WA-11 (Adversely affect existing or planned wastewater treatment systems or requirements).** Decommissioning of the AEWP would include closure and abandonment of the septic system and leach field used during operations of the AEWP, to be conducted in compliance with applicable permitting requirements. Decommissioning would not adversely affect planned or existing wastewater treatment systems or requirements. No impact would occur.

4.19.4 Alternative B: Revised Site Layout

Alternative B would involve the same components as Alternative A, except that a number of WTGs have been relocated and associated access roads rerouted. Alternative B contains 106 WTGs generating 318 MWs, as does Alternative A, and the area of disturbance under both alternatives would be the same.

4.19.4.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative B on water resources is organized according to the following phases: construction, operation and maintenance, and decommissioning.

Construction

Groundwater Supply and Recharge

Alternative B would implement a revised site layout compared to Alternative A, but would not alter the water supply requirements associated with construction, or the types of ground-disturbing activities and AEWP infrastructure described under Alternative A. Potential impacts to groundwater supply and recharge would be the same as described in Section 4.19.3, and the same BMPs and mitigation measures identified above and presented in Section 4.19.11 would be required for this alternative.

Surface Water and Drainage Patterns

Under Alternative B, some WTGs have been relocated and associated access roads realigned. Therefore, drainage pattern alterations would be re-distributed across the AEWP site, in comparison to Alternative A. However, the nature and magnitude of potential impacts associated with drainage pattern alterations would be the same as described in Section 4.19.3, because the same number of WTGs would be installed, and the same amount of ground-disturbing activities would occur (as described in Section 2.4.2 of this EIS/EIR). The same BMPs and mitigation measures identified above and presented in Section 4.19.11 would be required for this alternative.

Stormwater Drainage Systems

Potential impacts associated with stormwater drainage systems and the creation of new source(s) of polluted runoff would be the same for Alternative B as described above in Section 4.19.3, and the same BMPs and mitigation measures identified above and presented in Section 4.19.11 are applicable.

Flood Hazard Areas

Potential impacts associated with Flood Hazard Areas would be the same for Alternative B as described above in Section 4.19.3, and the same BMPs and mitigation measures identified above and presented in Section 4.19.11 are applicable.

Water Quality

Potential impacts associated with water quality would be the same for Alternative B as described above in Section 4.19.3, and the same BMPs and mitigation measures identified above and presented in Section 4.19.11 are applicable.

Mudflow Hazards

Potential impacts associated with mudflow hazards would be the same for Alternative B as described above in Section 4.19.3, and the same BMPs and mitigation measures identified above and presented in Section 4.19.11 are applicable.

Wastewater Treatment

Sanitary and wastewater disposal requirements associated with Alternative B would be the same as described above in Section 4.19.3.

Operation and Maintenance

Operation and maintenance of Alternative B would be the same as described in Section 4.19.3 for Alternative A. All potential impacts associated with groundwater supply and recharge, surface water and drainage patterns, stormwater drainage systems, Flood Hazard Areas, water quality, and mudflow hazards would be the same as described for Alternative A. The BMPs and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 are applicable to this alternative.

Decommissioning

Decommissioning activities associated with Alternative B would be the same as described in Section 4.19.3 for Alternative A. Although potential drainage pattern alterations would be re-distributed across the AEWP site due to the relocation of certain WTGs and associated access roads, such alterations would be location-specific and would not alter the overall nature and magnitude of potential water resources impacts resulting from drainage pattern alterations. Other impacts associated with decommissioning, including as related to groundwater supply and recharge, stormwater drainage systems, Flood Hazard Areas, water quality, and mudflow hazards, would also be the same as described for Alternative A. The BMPs and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 are applicable to this alternative.

4.19.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

Potential hydrology and water quality impacts under Alternative B would be distributed slightly differently than under Alternative A, due to the revised site plan; however, with implementation of BMPs and mitigation measures described in Section 4.19.11, the CEQA significance determinations for hydrology and water quality impacts under Alternative B would be identical to those described above for Alternative A.

4.19.5 Alternative C: Reduced Project Alternative North

Alternative C would implement 97 WTGs generating up to 291 MWs, which is 9.3 percent less than the 106 WTGs and 318 MWs that would occur under Alternatives A and B. Potential impacts to water resources are anticipated to be proportionately less under Alternative C than under Alternatives A and B,

because less infrastructure would be installed and fewer ground-disturbing activities would occur. Therefore, potential impacts to water resources are generally anticipated to be proportionately less under this alternative, as described below.

4.19.5.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative C on water resources is organized according to the following phases: construction, operation and maintenance, and decommissioning.

Construction

Due to the construction of fewer WTGs under Alternative C, potential impacts to water resources during construction are anticipated to be proportionately less, particularly as associated with water supply, drainage pattern alterations, and potential water quality effects associated with erosion and sedimentation. For instance, construction of Alternatives A and B would require up to 150 acre-feet of water over the nine- to 12-month construction period; assuming that Alternative C would require 9.3 percent less water due to the construction of 9.3 percent fewer WTGs, construction water required during construction of Alternative C would be approximately 136 acre-feet.

Groundwater Supply and Recharge

Overdraft and Drawdown. As with Alternatives A and B, it is anticipated that construction water for Alternative C would be obtained from regional water purveyors (MPUD and/or TCCWD) and trucked to the AEWP site. The WSA prepared for the AEWP indicates that sufficient water supply is available through MPUD and/or TCCWD under varying climatic conditions over a 20-year projection to meet the AEWP's construction water requirements (CH2MHILL, 2011d). As with Alternatives A and B, the use of water supply obtained from MPUD and/or TCCWD in compliance with existing management plans and a one-time purchase agreement for up to 150 acre-feet would avoid potential adverse impacts to groundwater supply, including as related to overdraft, drawdown, and supply reliability.

Groundwater Recharge. Alternative C would construct 9.3 percent fewer WTGs than Alternatives A and B, and potential effects to groundwater recharge associated with the introduction of new impermeable surfaces would be proportionately less. Temporary disturbance associated with construction of the Alternative C is not anticipated to affect recharge in the Fremont Valley Groundwater Basin.

Construction Site Dewatering. A marginally smaller amount of ground-disturbing activities would occur under Alternative C than under Alternative A and B, due to the construction of 9.3 percent fewer WTGs, and the potential to encounter perched groundwater and implement dewatering procedures is also considered less. However, the potential to encounter shallow groundwater still exists, and Mitigation Measure 4.19-6 (Construction Site Dewatering Management) is required to that any required construction site dewatering activities occur in compliance with all applicable BMPs, and that grading and excavation activities are monitored for soil moisture in order to anticipate the need for dewatering activities, and minimize the potential for any related adverse effects.

Surface Water and Drainage Patterns

It is anticipated that potential impacts associated with surface water and drainage pattern alterations under Alternative C would be slightly less than under Alternatives A and B, due to the construction of 9.3 percent fewer WTGs and associated access roads. However, the nature of potential hydrology and water quality impacts associated with drainage pattern alterations would be the same, and BMPs and mitigation measures would be required to minimize or avoid such impacts. Mitigation measures presented in Section 4.19.11 and summarized in the discussion of "Surface Water and Drainage Patterns" for Alternative A are recommended for Alternative C and would reduce or minimize potential adverse effects

in the same ways as previously described. Please see Section 4.19.11 for the full text of mitigation measures.

Jurisdictional Drainages. Although Alternative C would result in less ground disturbance and associated drainage pattern alterations than Alternatives A and B, State jurisdictional drainages are still located throughout the AEWP site, and Alternative C would introduce the potential for dredge/fill impacts to occur. As described in the Jurisdictional Wetlands and Other Waters report prepared for the AEWP, any excavation or fill placement within jurisdictional features would require authorization under WDRs, per the Porter Cologne Water Quality Control Act and to be issued by the Lahontan RWQCB (CH2MHILL, 2011l).

Stormwater Drainage Systems

No stormwater drainage system exists at the AEWP site, and construction of Alternative C would include implementation of BMPs to minimize and/or avoid potential impacts associated with stormwater runoff. The potential for Alternative C to introduce a new source of polluted runoff would be slightly less than Alternatives A and B due to the construction of fewer WTGs, and associated reduced ground disturbance and reduced use and handling of hazardous materials, such as required for construction equipment. With implementation of Mitigation measures presented in Section 4.19.11 and summarized in the discussion of "Stormwater Drainage Systems" for Alternative A are recommended for Alternative C and would reduce or minimize potential adverse effects in the same ways as previously described..

Flood Hazard Areas

As described in Section 2.4.3 of this EIS/EIR, under Alternative C, all WTGs and ancillary facilities would remain identical to that of the AEWP, except that the central parcel of the AEWP site (north of SR 58) would be eliminated; facilities in the northern AEWP area, where the Flood Hazard Area along Cache Creek is located, would remain the same as Alternatives A and B. BMPs and mitigation measures identified above and presented in Section 4.19.11 are applicable.

Water Quality

Degradation of surface water quality and/or groundwater quality could occur through the effects of sedimentation, and/or through the accidental release of hazardous materials. The potential for these effects to occur under Alternative C would be slightly less than under Alternatives A and B due to the construction of fewer WTGs and the associated occurrence of fewer ground-disturbing activities and less use/of hazardous materials; however, the nature of potential water quality impacts would be the same as described in Section 4.19.3. BMPs identified by the BLM and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 would minimize potential impacts associated with water quality degradation.

Mudflow Hazards

Alternative C would construct fewer WTGs than Alternatives A and B, but there is still small potential for impacts associated with mudflow hazards to occur, and Mitigation measures presented in Section 4.19.11 and summarized in the discussion of "Mudflow Hazards" for Alternative A are recommended for Alternative C to reduce or minimize potential adverse effects in the same ways as previously described.

Wastewater Treatment

Sanitary and wastewater disposal requirements associated with Alternative C would be the same as described above in Section 4.19.3.

Operation and Maintenance

Operation and maintenance activities required under Alternative C would be the same as described in Section 4.19.3 for Alternative A, except that routine inspection, maintenance, and repair activities would be required for 9.3 percent fewer WTGs. This difference would not make an appreciable difference in the potential occurrence of water resources impacts. The BMPs and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 are applicable to this alternative.

Decommissioning

Decommissioning activities associated with Alternative C would be the same as described in Section 4.19.3 for Alternative A, except that decommissioning would be required for 9.3 percent fewer WTGs. As such, potential drainage pattern alterations associated with ground disturbance during decommissioning would be slightly less; however, the nature of potential impacts would be the same as previously described, and the BMPs and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 are applicable to this alternative.

4.19.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project Alternative North

Potential hydrology and water quality impacts under Alternative C would be distributed slightly differently than under Alternative A, due to the revised site plan; however, with implementation of BMPs and mitigation measures described in Section 4.19.11, the CEQA significance determinations for hydrology and water quality impacts under Alternative C would be identical to those described above for Alternative A.

4.19.6 Alternative D: Reduced Project Alternative Southwest

Alternative D would implement 87 WTGs generating up to 267 MWs, which is 11.5 percent less than the 97 WTGs and 291 MWs that would occur under Alternative C, and 21.8 percent less than the 106 WTGs and 318 MWs that would occur under Alternatives A and B. Potential impacts to water resources would be proportionately less under this alternative, although the nature of potential impacts to soil resources would be the same as previously described, and as summarized below.

4.19.6.1 Direct and Indirect Impacts

This analysis of direct and indirect impacts of Alternative D on water resources is organized according to the following phases: construction, operation and maintenance, and decommissioning.

Construction

Due to the construction of fewer WTGs under Alternative D, potential impacts to water resources during construction are anticipated to be proportionately less, particularly as associated with water supply, drainage pattern alterations, and potential water quality effects associated with erosion and sedimentation. For instance, construction of Alternatives A and B would require up to 150 acre-feet of water over the nine- to 12-month construction period; assuming that Alternative D would require 21.8 percent less water due to the construction of 21.8 percent fewer WTGs, construction water required during construction of Alternative D would be approximately 117 acre-feet.

Groundwater Supply and Recharge

Overdraft and Drawdown. As with Alternatives A through C, it is anticipated that construction water for Alternative D would be obtained from regional water purveyors (MPUD and/or TCCWD) and trucked to the AEWP site. The WSA prepared for the AEWP indicates that sufficient water supply is available through MPUD and/or TCCWD under varying climatic conditions over a 20-year projection to meet the

AEWP's construction water requirements (CH2MHILL, 2011d). Although Alternative D would require a smaller construction water supply than Alternatives A and B, the potential for overdraft and drawdown effects to occur is the same as previously described due to the use of water supply from MPUD and/or TCCWD. The use of water supply obtained from MPUD and/or TCCWD in compliance with existing management plans and a one-time purchase agreement for up to 150 acre-feet would avoid potential adverse impacts to groundwater supply, including as related to overdraft, drawdown, and supply reliability.

Recharge. Alternative D would construct 21.8 percent fewer WTGs than Alternatives A and B, and potential effects to groundwater recharge associated with the introduction of new impermeable surfaces would be proportionately less. Temporary disturbance associated with construction of Alternatives A through C is not anticipated to affect recharge in the Fremont Valley Groundwater Basin, and with the construction of 21.8 percent fewer WTGs under Alternative D, this alternative also would not affect recharge to the Fremont Valley Groundwater Basin.

Construction Site Dewatering. A smaller amount of ground-disturbing activities would occur under Alternative D than under Alternatives A through C, with the largest difference between Alternative D and Alternatives A and B. The potential to encounter perched groundwater and implement dewatering procedures is therefore less under Alternative D; however, the potential to encounter shallow groundwater still exists, and Mitigation Measure 4.19-6 (Construction Site Dewatering Management) is required to that any required construction site dewatering activities occur in compliance with all applicable BMPs, and that grading and excavation activities are monitored for soil moisture in order to anticipate the need for dewatering activities, and minimize the potential for any related adverse effects.

Surface Water and Drainage Patterns

It is anticipated that potential impacts associated with surface water and drainage pattern alterations under Alternative D would be less than under Alternatives A through C, particularly in comparison with Alternative A and B, due to the construction of 21.8 percent fewer WTGs and associated access roads. However, the nature of potential hydrology and water quality impacts associated with drainage pattern alterations would be the same, and BMPs and mitigation measures would be required to minimize or avoid such impacts. Mitigation measures presented in Section 4.19.11 and summarized in the discussion of "Surface Water and Drainage Patterns" for Alternative A are recommended for Alternative D and would reduce or minimize potential adverse effects in the same ways as previously described. Please see Section 4.19.11 for the full text of mitigation measures.

Jurisdictional Drainages. Although Alternative D would result in less ground disturbance and associated drainage pattern alterations than Alternatives A through C, State jurisdictional drainages are still located throughout the AEWP site, and Alternative D would introduce the potential for dredge/fill impacts to occur. As described in the Jurisdictional Wetlands and Other Waters report prepared for the AEWP, any excavation or fill placement within jurisdictional features would require authorization under Waste Discharge Requirements (WDRs), per the Porter Cologne Water Quality Control Act and to be issued by the Lahontan RWQCB (CH2MHILL, 2011l).

Stormwater Drainage Systems

No stormwater drainage system exists at the AEWP site, and construction of Alternative D would include implementation of BMPs to minimize and/or avoid potential impacts associated with stormwater runoff. The potential for Alternative D to introduce a new source of polluted runoff would be less than Alternatives A through C due to the construction of fewer WTGs, and associated reduced ground disturbance and reduced use and handling of hazardous materials, such as required for construction equipment. Mitigation measures presented in Section 4.19.11 and summarized in the discussion of "Stormwater Drainage Systems" for Alternative A are recommended for Alternative D and would reduce or minimize potential

adverse effects in the same ways as previously described. Please see Section 4.19.11 for the full text of mitigation measures.

Flood Hazard Areas

As described in Section 2.4.3 of this EIS/EIR, under Alternative D, fewer WTGs and ancillary facilities would be subject to impacts associated with the proximity of the Flood Hazard Area along Cache Creek. BMPs and mitigation measures identified above and presented in Section 4.19.11 are applicable.

Water Quality

Degradation of surface water quality and/or groundwater quality could occur through the effects of sedimentation, and/or through the accidental release of hazardous materials. The potential for these effects to occur under Alternative D would be less than under Alternatives A through C due to the construction of 21.8 percent fewer WTGs and the associated occurrence of fewer ground-disturbing activities and less use/handling of hazardous materials; however, the nature of potential water quality impacts would be the same as described in Section 4.19.3. BMPs identified by the BLM and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 would minimize potential impacts associated with water quality degradation.

Mudflow Hazards

Alternative D would construct fewer WTGs than Alternatives A through C; the potential for impacts associated with mudflow hazards to occur is considered minimal, and mitigation measures presented in Section 4.19.11 and summarized in the discussion of "Mudflow Hazards" for Alternative A are recommended for Alternative D and would reduce or minimize potential adverse effects in the same ways as previously described. Please see Section 4.19.11 for the full text of mitigation measures.

Wastewater Treatment

Sanitary and wastewater disposal requirements associated with Alternative B would be the same as described above in Section 4.19.3.

Operation and Maintenance

Operation and maintenance activities required under Alternative D would be the same as described in Section 4.19.3 for Alternative A, except that routine inspection, maintenance, and repair activities would be required for 21.8 percent fewer WTGs. This difference would not make an appreciable difference in the potential occurrence of water resources impacts. The BMPs and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 are applicable to this alternative.

Decommissioning

Decommissioning activities associated with Alternative D would be the same as described in Section 4.19.3 for Alternative A, except that decommissioning would be required for 21.8 percent fewer WTGs. As such, potential drainage pattern alterations associated with ground disturbance during decommissioning would be less; however, the nature of potential impacts would be the same as previously described, and the BMPs and mitigation measures identified in Section 4.19.3 and presented in Section 4.19.11 are applicable to this alternative.

4.19.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Alternative Southwest

Due to the reduced size of Alternative D, potential hydrology and water quality impacts under would be proportionately less than described for Alternatives A and B; however, the nature and magnitude of

hydrology and water quality impacts would not be substantially different. With implementation of BMPs and mitigation measures described in Section 4.19.11, the CEQA significance determinations for hydrology and water quality impacts under Alternative D would be identical to those described above for Alternative A.

4.19.7 Alternative E: No Issuance of a ROW Grant and No Land Use Plan Amendment (No Action / No Project)

With Alternative E, none of the AEWP components would be built. This alternative is equivalent to the No Project Alternative under the CEQA (§15126.6(e)) and the No Action Alternative under NEPA.

4.19.7.1 Direct and Indirect Impacts

Under Alternative E, no action would occur and existing conditions relevant to water resources would continue. No impact would occur; however, the area would be available to development in the future. In the future, if other development projects are implemented, similar impacts to water resources as those described for the AEWP and alternatives could occur.

4.19.7.2 CEQA Significance and Impact Determinations, Alternative E: No Issuance of a ROW Grant and No Land Use Plan Amendment (No Action / No Project)

Alternative E would result in no impacts to water resources.

4.19.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

With Alternative F, none of the AEWP components would be built (No Project), but an amendment to the CDCA Plan would identify the AEWP site as unsuitable for wind energy development.

4.19.8.1 Direct and Indirect Impacts

Under Alternative F, no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to water resources would continue, but could be altered at some point in the future by construction of some currently unknown project. No impacts associated with the AEWP or an alternative would occur.

4.19.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would result in no impacts to water resources.

4.19.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

With Alternative G, none of the AEWP components would be built (No Project), but an amendment to the CDCA Plan would identify the AEWP site as suitable for wind energy development.

4.19.9.1 Direct and Indirect Impacts

Under Alternative G, no action would occur but the area would be available to wind power development in the future. No impacts associated with the AEWP or an alternative would occur. In the future, if another wind development project is implemented, similar impacts to water resources as those described for the AEWP could occur.

4.19.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

Alternative G would result in no impacts to water resources.

4.19.10 Cumulative Impacts

Cumulative impacts to water resources resulting from the AEWP or an alternative would occur if similar impacts of other projects within the geographic extent of this analysis were to occur during the same time period as those impacts of the AEWP, including during the construction, operation and maintenance, and decommissioning phases.

4.19.10.1 Geographic Extent/Context

The geographic scope of the cumulative effects analysis for water resources takes into consideration the entirety of impacts that other renewable energy projects, zone changes, and general plans discussed in Section 4.1.6 would have on water resources. This analysis considers the area downstream from the AEWP site, including projects that could potentially result in similar impacts as the AEWP and alternatives. This analysis also considers groundwater resources in the southwestern-most portion of the Fremont Valley Groundwater Basin that could potentially be affected by the introduction of impermeable surfaces that could affect recharge rates or patterns. It is not necessary to address the entire extent of the Fremont Valley Groundwater Basin in the context of this cumulative impacts assessment because the AEWP would only pump water from the Fremont Basin during AEWP operations, and such use would be minimal, it would be monitored per mitigation required under the AEWP, and groundwater use would be discontinued if adverse effects are identified in the AEWP area. Therefore, the geographic extent of this cumulative impacts analysis identified as the area within a six-mile radius downstream of the AEWP site is an appropriate for the analysis of water resources because it encompasses all surface water and groundwater resources that could be affected by the proposed AWEP and would therefore have potential to also be affected by cumulative effects.

4.19.10.2 Existing Cumulative Conditions

This section discusses past and ongoing projects in the cumulative analysis area described above. Past or present projects which contribute to existing cumulative conditions in the AEWP area, as relevant to water resources, includes the Los Angeles Aqueduct, which traverses the southeast portion of the AEWP area and would be traversed by AEWP transmission lines and access road(s), and the Alta–Oak Creek-Mojave Wind Project, which is approximately five miles south of the AEWP site and includes 248 WTGs on a 9,120-acre site. The Los Angeles Aqueduct delivers water supply from the Sierra Nevada areas of central and northern California to southern California. In the AEWP area, the Aqueduct (First and Second) is contained within underground or partially underground piping systems. The Alta–Oak Creek-Mojave Wind Project is a renewable energy project similar to the AEWP and alternatives, and is anticipated to result in similar impacts to hydrology and water quality. Both of these projects are existing and any potential impacts to water resources are operational.

4.19.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Figure 4.1-1 (Cumulative Projects) indicates that there are no cumulative projects within the AEWP site, although two projects are adjacent to the south (18 and 53). In addition, several projects within six miles downstream of the AEWP site (13, 28, 30, 35, 41, 44, 45, 46) could result in impacts to water resources that would have the potential to combine with similar impacts of AEWP. These projects are summarized below and discussed in the following cumulative impact analysis.

- Rising Tree Wind Energy Project (18) is adjacent to the south of the AEWP site, and would construct a wind energy project with up to 78 WTGs on a 2,746-acre site. An NOI for this project was published in early 2011. It is possible that construction could occur during the same timeframe as the AEWP and, due to the proximity of this project to the AEWP, it is assumed that common access roads would be used for both projects, and the same water source(s) for construction, operation, and decommissioning could also be used.
- The California High-Speed Train Project (53) is planned to be routed adjacent to the southwest portion of the AEWP site, and is currently being assessed in a joint NEPA/CEQA process. It is not known when environmental review of this project will be complete, or when project construction may occur; however, due to the scale of the project, including 800 miles of railroad track, it is considered highly unlikely that construction of the California High-Speed Train Project would occur at the same time as construction of the AEWP.
- Alta Infill II Wind Energy Project (13) is several miles to the south of the AEWP and would construct up to 250 WTGs on a 9,780-acre site. A Supplemental EIR for this project was published in August of 2011. It is possible that construction could occur during the same timeframe as construction of the AEWP, and it is considered likely that common access roads could be used for both projects, and the same water source(s) for construction, operation, and decommissioning could also be used.
- Mojave Solar Park (28) is at the edge of the cumulative extent's six-mile radius, approximately six miles southeast of the AEWP site. This is a distributed solar project, currently proposed on a 29-acre parcel. It is not known when construction of this project would occur.
- The Aeromen LLC (30) is several miles south-southeast of the AEWP, and includes four proposed solar projects on a 237-acre site. An application for this project was prepared in March of 2011. It is not known whether construction could occur in the same timeframe as the AEWP, or whether common access roads would be used.
- The High Desert Solar Project (35) is approximately five miles southeast of the AEWP site, and is a proposed solar PV facility that would generate up to 18 MW of electricity on a 154-acre site. The NOI/IS for this project was released in April of 2011. It is not known when construction of this project would occur.
- Fresh Winds International Ltd. (41) is within five miles to the south of the AEWP site, and is a proposed zone change on 40 acres; the application for this project was submitted in June of 2009.
- North Star Properties / Mark Judson (44) has submitted an application for a 50-acre residential and commercial development located several miles south of the AEWP site. It is not known when construction of this project would occur.
- Greg Lansing / Oliver Cagle (45) has submitted an application to revise Mojave Specific Map Plan Designations to allow for increased residential development on a 510-acre site located within several miles southeast of the AEWP. It is not known when construction of this project would occur.

- Julio Segura (46) has submitted an application for the construction of two duplexes located roughly five miles southeast of the AEWP. It is not known when construction of this project would occur.

The reasonably foreseeable projects listed above could potentially result in similar impacts to water resources as the AEWP, if project schedules coincide. In particular, potential cumulative impacts could occur if the same water source(s) are used, and if drainage pattern alterations result from use of common access roads (on-site drainage pattern alterations would be highly site-specific).

4.19.10.4 Construction

Impacts associated with construction activities would be cumulatively considerable if they would have the potential to combine with similar impacts of other past, present, or reasonably foreseeable projects. The potential for water resources impacts resulting from AEWP or an alternative to combine with the effects of other projects within the geographic and temporal scope of this cumulative analysis is described below.

Groundwater Supply and Recharge

The temporary construction water requirements of the proposed AEWP or an alternative for up to 150 acre-feet of water would not result in adverse impacts to groundwater supply, including as related to overdraft and drawdown, because this use would occur under existing water supply management plans for MPUD and/or TCCWD and consistent with a one-time purchase agreement for the AEWP. Therefore, the AEWP would not have potential to combine with effects of other projects to result in cumulative impacts associated with groundwater supply or supply reliability. Other aspects of AEWP construction that could potentially affect groundwater resources include the redirection of natural recharge to groundwater basin(s), such as through the introduction of impervious areas that prevent infiltration, and/or the potential for ground disturbance to result in the unexpected encountering of shallow groundwater resources that may require dewatering actions. As described above, construction of the AEWP or an alternative would introduce a very small area of new impervious surfaces, relative to the overall AEWP site, and would not result in significant effects associated with alterations in the rate or distribution of groundwater recharge; therefore, it is not anticipated that the proposed AEWP or an alternative would have the potential to combine with effects of other projects to result in cumulative impacts to groundwater recharge due to changes in infiltration rates or patterns. In addition, implementation of BMPs and mitigation measures identified in Section 4.19.11 would avoid or minimize potential impacts to groundwater resources associated with dewatering activities, should they be required, and the AEWP would not combine with effects of other projects to result in cumulative impacts associated with dewatering activities.

Surface Water and Drainage Patterns

Permanent disturbance on the AEWP site would occur on approximately 3.5 percent of the overall site, and potential impacts to surface waters and drainage pattern alterations would generally be site-specific. With implementation of the BMPs and mitigation measures presented in Section 4.19.11, construction of the AEWP or an alternative would not result in substantial impacts to surface water and drainage patterns such that erosion, siltation, or flooding would occur on or off site. Potential impacts to surface water and drainage patterns associated with other projects in the cumulative scenario, as listed above in Section 4.19.10.3, could occur in the same time frame as similar impacts of the AEWP or an alternative; such impacts would have ,minimal potential to combine and result in cumulative effects due to the site-specific nature of drainage pattern alterations, implementation of AEWP-specific mitigation measures, and compliance with existing laws and regulations relevant to the minimization of drainage pattern alterations.

Stormwater Drainage Systems

The AEWP and alternatives would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, and would therefore not have the potential to result in cumulative impacts associated with existing or planned stormwater drainage systems.

Due to the use and storage of harmful or potentially hazardous materials during construction activities, there is potential for construction of the AEWP or an alternative to contribute sources of polluted runoff, such as if an accidental leak or release of harmful materials were to occur during a storm event; however, such effects would be site-specific and mitigated by actions listed in Section 4.19.11, and would therefore not have the potential to combine with impacts of other projects in the cumulative scenario, as related to the contribution of polluted runoff.

Flood Hazard Areas

Infrastructure constructed under the AEWP or an alternative would be designed and engineered to withstand potential flooding and erosion hazards and, with implementation of BMPs and mitigation measures identified in Section 4.19.11, effects associated with impeding or redirecting flood flows would be minimized and/or avoided. It is anticipated that other projects in the cumulative scenario would also place infrastructure within and/or adjacent to FEMA-designated Flood Hazard Areas; however, due to the site-specific nature of potential impacts associated with Flood Hazard Areas and the minimization and/or avoidance of potential Flood Hazard Area impacts that would occur through implementation of the BMPs and mitigation measures identified in Section 4.19.11, this potential impact of the AEWP or an alternative is not anticipated to combine with similar effects of other projects in the cumulative scenario.

Water Quality

Degradation of surface water quality and/or groundwater quality could occur through the effects of erosion and sedimentation, and/or through the accidental release of hazardous materials, particularly if a storm event occurs during construction activities. Other projects in the cumulative scenario would also have the potential to result in water quality impacts associated with erosion and sedimentation and/or the release of hazardous materials. This impact of the AEWP or an alternative would be site-specific in nature and would be minimized and/or avoided through implementation of the BMPs and mitigation measures identified in Section 4.19.11 (as described in preceding sections). Therefore, this potential impact of the AEWP or an alternative would not have potential to combine with similar effects of other projects in the cumulative scenario.

Mudflow Hazards

Infrastructure that would be installed during construction of the AEWP or an alternative would be designed and engineered to avoid impacts associated with the potential inundation by mudflow, where it is determined based on geotechnical studies that mudflow hazards are present. Although other projects in the cumulative scenario may place infrastructure in areas subject to mudflow hazards, due to the size of the AEWP site and the location-specific nature of this potential impacts, in addition to the BMPs and mitigation measures listed in Section 4.19.11 that would minimize potential effects associated with mudflow hazards, potential cumulative effects are not anticipated to occur.

Wastewater Treatment

During construction of AEWP, portable facilities would be used to meet sanitary and wastewater requirements, and any wastewater generated in association with these facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. No adverse impacts would occur and no potential for cumulative impacts would occur.

4.19.10.5 Operation and Maintenance

Cumulative impacts associated with operation and maintenance of the AEWP or an alternative are discussed in this section.

Groundwater Supply and Recharge

As discussed in Sections 4.19.3 through 4.19.6, the operational water requirement of approximately 0.224 afy for the proposed AEWP or an alternative would be pumped from the Fremont Valley Groundwater Basin using an on-site groundwater well(s). BMPs identified by the BLM and AEWP-specific mitigation measures described in the preceding sections and presented in Section 4.19.11 would be implemented to minimize AEWP contributions to the cumulative scenario. However, due to a lack of comprehensive and quantitative data needed to characterize existing overdraft conditions (or lack thereof) in the Fremont Valley Groundwater Basin, there is possibility that impacts of the proposed AEWP or an alternative could combine with similar impacts of other projects drawing water from the Fremont Valley Groundwater Basin to result in cumulative effects associated with overdraft and drawdown.

Surface Water and Drainage Patterns

Operation and maintenance of the AEWP or an alternative would not introduce new infrastructure or alter existing surface water and drainage patterns beyond what is completed during the construction period; no cumulative impacts associated with surface water or drainage pattern alterations that could result in erosion, siltation, or flooding on or off site would occur.

Stormwater Drainage Systems

Operation and maintenance of the AEWP or an alternative would not introduce any new stormwater drainage system(s) and would not create or contribute runoff water which could exceed the capacity of existing or planned stormwater drainage systems; therefore, no cumulative impacts associated with the capacity of existing or planned stormwater drainage systems would occur. Operation and maintenance of the AEWP or an alternative would have the potential to create or contribute to polluted stormwater runoff, if an accidental spill or leak of hazardous materials such as vehicle fluids were to occur, particularly during a storm event; however, BMPs and mitigation measures listed in Section 4.19.11 would ensure that such potential effects would be minimized or avoided, and would remain site-specific. Considering the size of the AEWP site and the site-specific nature of this potential impact, cumulative effects are not anticipated to occur.

Flood Hazard Areas

Operation and maintenance activities would not introduce new infrastructure or activities with the potential to impede or redirect flood flows such that new impacts would occur; therefore, no cumulative impacts associated with Flood Hazard Areas would occur.

Water Quality

Operation and maintenance of the AEWP or an alternative would not introduce substantial new potential for water quality impacts to occur; due to the size of the AEWP site, the site-specific nature of this potential impact, and the minimization and/or avoidance of potential water quality impacts that would occur through implementation of the BMPs and mitigation measures identified in Section 4.19.11, this potential impact of the AEWP or an alternative is not anticipated to combine with similar effects of other projects in the cumulative scenario.

Mudflow Hazards

Operations and maintenance of the AEWP would not introduce any infrastructure or activities that would result in new mudflow hazards; no cumulative effects would occur.

Wastewater Treatment

Operation and maintenance of the AEWP would include the use of a septic system and leach field at or near the O&M building, to be operated in compliance with applicable County permitting requirements. Potential impacts of AEWP associated with wastewater treatment would be site-specific and less than significant. No cumulative effects would occur.

4.19.10.6 Decommissioning

Cumulative impacts associated with decommissioning of the AEWP or an alternative are discussed in this section. Water supply requirements associated with decommissioning of the AEWP or an alternative have not been identified, but it is reasonably assumed that a water source would be required for soil conditioning and dust control, and that the same water source used during construction would be used to meet decommissioning requirements. The BMPs and stipulations developed for construction activities would be applied to similar activities during the decommissioning phase, including as related to the protection of hydrology and water resources from potentially adverse impacts.

Groundwater Supply and Recharge

The discussion of potential cumulative impacts provided above under "Construction" describes specific scenarios that could result in impacts to groundwater supply and recharge; similar effects would occur during decommissioning of the proposed AEWP or an alternative because the same water source(s) would be used during decommissioning activities, and similar ground-disturbing activities would occur to remove AEWP infrastructure. As discussed, the purchasing of water from MPUD and/or TCCWD for use on the AEWP site would avoid potential impacts associated with groundwater overdraft, drawdown, and supply reliability because such actions would occur in compliance with existing management plans, and per a purchase agreement with the water purveyor(s). Potential cumulative impacts to groundwater supply and recharge associated with decommissioning of the AEWP or an alternative would be comparable to the description provided under "Construction," and decommissioning of the AEWP or an alternative would not contribute to cumulative impacts associated with groundwater supply and recharge.

Surface Water and Drainage Patterns

Restoration of the AEWP site would include returning the area as close as reasonably possible to pre-construction conditions suitable for current adjacent land; therefore, potential effects of decommissioning activities to groundwater recharge are anticipated to be beneficial, and adverse cumulative effects associated with recharge would not occur. A decommissioning plan would be implemented prior to decommissioning activities, and would include BMPs consistent with the BLM Wind Energy Program EIS/ROD and similar to the BMPs implemented with construction of the AEWP (presented below in Section 4.19.11); as such, appropriate BMPs would be implemented as needed, and significant adverse cumulative effects associated with surface water and drainage patterns would not occur.

Flood Hazard Areas

Decommissioning of the AEWP or an alternative would remove infrastructure from the AEWP site, and would remove potential impacts introduced during construction of the AEWP associated with placing structures within a Flood Hazard Area such that flood flows could be impeded or redirected; no cumulative impacts related to Flood Hazard Areas would occur.

Water Quality

Decommissioning of the AEWP or an alternative would involve the handling and disposal of hazardous materials including fluids such as lubricating oils, hydraulic fluids, and coolants drained from the turbine components, and would introduce the potential for an accidental release and associated water quality

degradation to occur. Cumulative impacts could occur if the AEWP (or an alternative) and another AEWP within the geographic extent of analysis results in water quality degradation affecting the same water resource. Due to the size of the AEWP site, and the minimization and/or avoidance of potential water quality impacts that would occur through implementation of the BMPs and mitigation measures identified in Section 4.19.11, the AEWP or an alternative would not contribute to cumulative effects associated with water quality.

Stormwater Drainage Systems

Decommissioning of the AEWP would not introduce a new stormwater drainage system or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, and would not provide substantial additional sources of polluted runoff; no cumulative effects associated with stormwater drainage systems would occur.

Mudflow Hazards

Decommissioning of the AEWP would decrease potential adverse effects associated with mudflow hazards; no adverse cumulative effects would occur.

Wastewater Treatment

Decommissioning of the AEWP would include abandonment of the septic system and leach field used during operation of the AEWP, in compliance with Kern County permitting requirements, and would not adversely affect existing or planned wastewater treatment systems. No adverse effects would occur and no cumulative impacts would occur.

4.19.10.7 CEQA Significance and Impact Determinations, Cumulative

Construction

- **WA-1 (Violate any water quality standards or waste discharge requirements).** With implementation of AEWP-specific mitigation measures, construction of the AEWP would be in compliance with all applicable laws and regulations. No cumulative impact would occur.
- **WA-2 (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed).** Construction of the proposed AEWP or an alternative would not result in adverse impacts to groundwater supply, including as relevant to overdraft, drawdown, and supply reliability, and would not have the potential to result in adverse cumulative impacts to groundwater supply. Adverse effects associated with alterations to groundwater recharge rates or patterns due to the introduction of new impervious surfaces would be site-specific and would not have potential to result in cumulative effects. No cumulative impact would occur.
- **WA-3** and **WA-4 (Substantially alter drainage pattern in a matter which would result in erosion, siltation, or flooding on- or off-site).** Construction of the AEWP or an alternative would include earth-disturbing activities and the installation of new infrastructure that would introduce the potential to substantially alter existing drainage patterns of the site, such that erosion, siltation, and/or flooding on or off site could occur. Implementation of BMPs and mitigation measures required under the proposed AEWP and alternatives would minimize the AEWP's contribution to the cumulative scenario; however, due to the proximity of other projects in the cumulative scenario, it would be possible for this

effect of the proposed AEWP to combine with similar effects of other projects. Cumulative impacts associated with erosion, sedimentation, or flooding would be less than significant.

- **WA-5 (Create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide polluted runoff).** The proposed AEWP or an alternative would not include installation of new stormwater drainage systems, and would not affect existing stormwater drainage systems. BMPs and mitigation measures that would be implemented with the AEWP and alternatives would minimize and/or avoid potential impacts associated with polluted runoff. The contribution to the cumulative scenario would be site-specific and less than significant. No cumulative impacts associated with increased or polluted runoff would occur.
- **WA-6 (Otherwise substantially degrade water quality).** Construction of the AEWP would not otherwise substantially degrade water quality. No cumulative impact associated with polluted runoff would occur.
- **WA-8 (Place within a 100-year flood hazard area structures which would impede or redirect flood flows).** During construction of the AEWP or an alternative, new infrastructure would be installed within and adjacent to designated Flood Hazard Areas. BMPs and mitigation measures that would be implemented under the AEWP and alternatives would ensure that the AEWP's contribution to the cumulative scenario would be less than significant. No cumulative impacts associated with Flood Hazard Areas would occur.
- **WA-10 (Contribute to inundation by seiche, tsunami, or mudflow).** The proposed AEWP or an alternative would not alter existing potential for inundation. No cumulative impacts would occur.
- **WA-11 (Adversely affect existing or planned wastewater treatment systems or requirements).** The proposed AEWP or an alternative would not result in adverse effects associated with wastewater treatment. No cumulative impacts would occur.

Operation and Maintenance

- **WA-1 (Violate any water quality standards or waste discharge requirements).** With implementation of AEWP-specific mitigation measures, operation of the AEWP would be in compliance with all applicable laws and regulations. No cumulative impact would occur.
- **WA-2 (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed).** Operation and maintenance of the proposed AEWP or an alternative could deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. BMPs and AEWP-specific mitigation measures that would be implemented under the proposed AEWP or an alternative would minimize the AEWP's contribution to the cumulative scenario, and would ensure that potential cumulative effects would be less than significant.
- **WA-3** and **WA-4 (Substantially alter drainage pattern in a matter which would result in erosion, siltation, or flooding on- or off-site).** Operation and maintenance of the AEWP or an alternative would not substantially alter drainage patterns on the AEWP site, and would not result in impacts associated with erosion, siltation, or flooding that would have the potential to combine with similar impacts of other projects. No cumulative impacts would occur.
- **WA-5 (Create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide polluted runoff).** Operation and maintenance of the proposed AEWP or an alternative would not include installation of new stormwater drainage systems, and would not affect

existing stormwater drainage systems or provide a substantial source of polluted runoff. The contribution to the cumulative scenario would be site-specific and less than significant. No cumulative impacts associated with increased or polluted runoff would occur.

- **WA-6 (Otherwise substantially degrade water quality).** Operation and maintenance of the AEWP would not otherwise substantially degrade water quality. No cumulative impact associated with water quality would occur.
- **WA-8 (Place within a 100-year flood hazard area structures which would impede or redirect flood flows).** Operation and maintenance of the AEWP or an alternative would not introduce new infrastructure or new flood-related hazards. No cumulative impacts associated with Flood Hazard Areas would occur.
- **WA-10 (Contribute to inundation by seiche, tsunami, or mudflow).** Operation and maintenance of the proposed AEWP or an alternative would not alter existing potential for inundation. No cumulative impacts would occur.
- **WA-11 (Adversely affect existing or planned wastewater treatment systems or requirements).** Operation and maintenance of the proposed AEWP or an alternative would include use of a permitted septic system and leach field and potential impacts associated with wastewater treatment would be site-specific and less than significant; there would be no potential for wastewater treatment effects of the AEWP or an alternative to combine with similar effects of other projects because they would be limited to the on-site leach field. No cumulative impacts would occur.

Decommissioning

- **WA-1 (Violate any water quality standards or waste discharge requirements).** With implementation of AEWP-specific mitigation measures, decommissioning of the AEWP would be in compliance with all applicable laws and regulations. No cumulative impact would occur.
- **WA-2 (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed).** As with construction of the proposed AEWP or an alternative, decommissioning would not result in adverse impacts to groundwater supply, including as relevant to overdraft, drawdown, and supply reliability, and would not have the potential to result in adverse cumulative impacts to groundwater supply. Adverse effects associated with ground-disturbing activities to remove AEWP infrastructure that could unexpectedly encounter shallow groundwater and require dewatering activities would be site-specific and would not have potential to result in cumulative effects. Therefore, decommissioning of the proposed AEWP or an alternative would not deplete groundwater supplies or interfere with groundwater such that adverse cumulative effects would occur; no cumulative impact would occur.
- **WA-3** and **WA-4 (Substantially alter drainage pattern in a matter which would result in erosion, siltation, or flooding on- or off-site).** Decommissioning of the AEWP or an alternative would include earth-disturbing activities to remove existing infrastructure and would introduce the potential for erosion, siltation, and/or flooding on or off site to occur. These potential effects would be temporary and site-specific, and would not have potential to combine with similar effects of other projects in the area. No cumulative impacts associated with erosion, sedimentation, or flooding would occur during the decommissioning phase.
- **WA-5 (Create or contribute runoff water which would exceed the capacity of stormwater drainage systems or provide polluted runoff).** Decommissioning of the AEWP or an alternative

could generate polluted runoff, but such impacts would be minimized or avoided through implementation of BMPs and mitigation measures. The AEWP's contribution to potential cumulative impacts would be less than significant.

- **WA-6 (Otherwise substantially degrade water quality).** Decommissioning of the AEWP would not otherwise substantially degrade water quality. No cumulative impact associated with polluted runoff would occur.
- **WA-8 (Place within a 100-year flood hazard area structures which would impede or redirect flood flows).** Decommissioning of the AEWP or an alternative would remove infrastructure from within and adjacent to designated Flood Hazard Areas. No impact associated with the placement of infrastructure within a Flood Hazard Area would occur, and no cumulative impacts associated with Flood Hazard Areas would occur.
- **WA-10 (Contribute to inundation by seiche, tsunami, or mudflow).** Decommissioning of the proposed AEWP or an alternative would not alter existing potential for inundation. No cumulative impacts would occur.
- **WA-11 (Adversely affect existing or planned wastewater treatment systems or requirements).** Decommissioning of the AEWP or an alternative would include closure and abandonment of the septic system and leach field used during operations of the AEWP. No adverse effects would occur and there would be no potential for cumulative impacts to occur.

4.19.11 Mitigation Measures

AEWP-specific mitigation measures have been developed to reduce and/or avoid potential water resources impacts associated with construction of the AEWP as follows:

MM 4.19-1 **Approval of Sewage Disposal.** Prior to the issuance of building permits by the County for an operations & maintenance building and/or a Notice to Proceed from the BLM, the project proponent shall submit evidence of the following:

1. The method of sewage disposal for the operations and maintenance facility and any other applicable structures shall be as required and approved by the Kern County Environmental Health Services Division. Compliance with this requirement will necessitate that the Proponent obtain the necessary approvals for the design of the septic system from the Kern County Engineering, Surveying, and Permit Services Department. The septic system disposal field shall be located a minimum of 100-feet from a classified stream or 25-feet from a non-classified stream and shall not be located where it would impact State wetlands or special-status plant species.
2. The Proponent shall obtain water appropriation rights for on-site potable water to the satisfaction of the Kern County Environmental Health Services Division, if applicable.

MM 4.19-2 **Submit a Road Plan to the BLM and Kern County for Review.** Prior to the issuance of grading/building permits from the County and/or a Notice to Proceed from the BLM, the project proponent shall submit a *Road Plan* to the BLM and the Kern County Engineering, Surveying, and Permit Services Department for review. The Road Plan shall include the following components:

1. A map/plot plan that identifies the precise location of all planned access roads and spur roads, as well as any planned improvements to existing roads.
2. A list and description of the specific improvements/modifications that would be undertaken at each location or road segment, including the planned width of each

completed segment, the engineered limits of cut and fill, the location of any drainage and/or sensitive habitat within 100-feet of either edge of the planned access or spur road, and the location and construction details of any new or modified stream crossings or drainage diversion structures.

3. Should the road plan propose a "cut" or "fill" of more than twelve (12) inches, or the movement of more than fifty (50) cubic yards of material, the road plan shall be submitted in the form of a grading permit application to the BLM and the Kern County Engineering, Surveying, and Permit Services Department for review.

MM 4.19-3 **Demonstrate Compliance with Water Quality Permits.** Prior to issuance of grading/building permits from the County, and/or a Notice to Proceed from the BLM, the project proponent shall submit evidence to the BLM and to the Kern County Planning and Community Development that the following agencies have been contacted to inquire about the necessity of permits from that Agency:

1. *California Department of Fish and Game*: Streambed Alteration Permit;
2. *U.S. Army Corps of Engineers*: Clean Water Act Section 404 permit;
3. *Lahontan Regional Water Quality Control Board*: Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) General Permit for stormwater discharges associated with construction activities, Stormwater Pollution Prevention Plan (SWPPP) with Best Management Practices (BMPs) for stormwater management, a Clean Water Act Section 401 certification, and/or Waste Discharge Requirement permit(s).

Where a permit is required, the project proponent shall provide a copy of all the conditions required by that agency to BLM and Kern County, as applicable. The project proponent shall maintain and make available on site at all times an approved copy of all required permits and conditions.

MM 4.19-4 **Submit a Drainage Design Plan.** Prior to issuance of grading/building permits from the County, and/or a Notice to Proceed from the BLM, the project proponent shall submit a *Drainage Design Plan* to the BLM and the Kern County Department of Engineering, Survey and Permits Services for review. The plan shall include provisions for the following:

1. Groundcover for the new substation shall be comprised of a pervious and/or high-roughness material (for example, gravel) to the maximum extent feasible, in order to ensure maximum percolation of rainfall after construction.
2. Detention/retention basins shall be installed to reduce local increases in runoff, particularly on frequent runoff events (up to 10 year frequency).
3. Downstream drainage discharge points shall be provided with erosion protection and designed such that flow hydraulics exiting the site mimic the natural conditions as much as possible.
4. On-site drainage from impervious surfaces (e.g., roads, driveways, buildings) shall be directed to a common drainage basin;
5. The project shall design as few basins as possible for the entire development;
6. Where feasible, mass grading and contouring shall be done in a way to direct surface runoff towards the above-referenced basins (and/or closed depressions); and,

7. Identify the location of all temporary and permanent fencing. Ensure fencing will not entrain debris/sediment or interfere with natural flow patterns to the maximum extent practicable based on applicable hydrological and performance criteria.

MM 4.19-5 **Develop a Water Supply Contingency Plan.** Prior to the issuance of building permits from the County and/or a Notice to Proceed from the BLM, the project proponent shall develop and submit a *Water Supply Contingency Plan* to the BLM and the Kern County Planning and Community Development Department for review. The Plan shall be prepared by a hydrogeologist and shall include results from a groundwater investigation of any groundwater resources to be used during project operation and maintenance; groundwater would not be pumped by the Proponent to support project construction or decommissioning. The purpose of the groundwater investigation shall be to determine whether the identified groundwater resource(s) is in overdraft conditions; the investigation may include review of historic groundwater well data, groundwater monitoring, hydrologic modeling, and/or interviews with private well owners. Groundwater resources from basin(s) determined to be in long-term overdraft conditions shall not be used to meet project water supply requirements. Additionally, the plan shall contain provisions for ongoing monitoring of water supply well(s) used during project - related operation and maintenance activities, as deemed necessary by Kern County.

MM 4.19-6 **Construction Site Dewatering Management.** If groundwater is unexpectedly encountered during construction, operation, or decommissioning of the project, dewatering activities shall be performed in compliance with the California Stormwater Quality Association (CASQA) Handbook for Construction or other similar guidelines, as required by the BLM and/or by Kern County. The project proponent shall notify the BLM, Kern County, and Lahontan RWQCB at the onset of dewatering activities, and submit written description of all executed dewatering activities, including steps taken to return encountered groundwater to the subsurface, upon the completion of dewatering activities at the affected site(s).

MM 4.19-7 **Develop Master Drought Water Management and Water Conservation Education Programs.** Prior to the issuance of building permits from the County and/or a Notice to Proceed from the BLM, a master *Drought Water Management Plan* shall be prepared by the project proponent and submitted to the BLM for review and approval. The Plan shall include measures on how future water use will be managed during “severe” drought year(s). These measures would go into effect during periods of “severe” drought and shall remain in effect until it is shown satisfactorily to the BLM that the “severe” drought condition no longer exists. This Plan shall include the following:

1. The definition of a "severe" drought year (as defined by the National Oceanic and Atmospheric Administration's (NOAA) Palmer Drought Severity method or other similarly recognized methodology);
2. Identification of general measures available to reduce water usage for future development (to be refined as needed for each use approved);
3. Identification of specific measures to be applied for landscape watering;
4. Determination of appropriate early triggers to determine when "severe" drought conditions exist and process for initiating additional water conservation measures for [tract] and future development.
5. A master Water Conservation Education Program for all future operators and employees for use during drought periods. The Program shall be implemented throughout the construction, operation, and decommissioning of the project.

6. Provisions which state that for any year that a "severe drought" state has been recognized, the project proponent shall submit a letter to the BLM by November 1 of that year identifying what measures were implemented to conserve water, as well as the effectiveness of such measures.

BLM Best Management Practices

The AEWP would include implementation of recommended BMPs from BLM's Programmatic EIS for Wind Energy Development on BLM-Administered Lands in the Western United States (BLM, 2005e). The BLM BMPs are presented below.

☐The size of cleared and disturbed lands should be minimized as much as possible. Existing roads and borrow pits should be used as much as possible.

☐Topsoil removed during construction should be salvaged and reapplied during reclamation. Disturbed soils should be reclaimed as quickly as possible or protective covers should be applied.

☐Operators should identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and dip angles of geologic strata). Operators also should avoid creating excessive slopes during excavation and blasting operations. Special construction techniques should be used where applicable in areas of steep slopes, erodible soil, and stream channel/wash crossings.

☐Erosion controls that comply with county, state, and federal standards should be applied. Practices such as jute netting, silt fences, and check dams should be applied near disturbed areas.

☐Operators should gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies should be identified.

☐Operators should avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.

☐Proposed construction near aquifer recharge areas should be closely monitored to reduce the potential for contamination of said aquifer. This may require a study to determine localized aquifer recharge areas.

☐Foundations and trenches should be backfilled with originally excavated material as much as possible. Excess excavated material should be disposed of only in approved areas to control soil erosion and to minimize leaching of hazardous constituents.

☐Existing drainage systems should not be altered, especially in sensitive areas such as erodible soils or steep slopes. When constructing stream or wash crossings, culverts or water conveyances for temporary and permanent roads should be designed to comply with county standards, or if there are no county standards, to accommodate the runoff of a 10-year storm. Potential soil erosion should be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts should be cleaned and maintained regularly.

☐On-site surface runoff control features should be designed to minimize the potential for increased localized soil erosion. Drainage ditches should be constructed where necessary but held to a minimum. Potential soil erosion should be controlled at culvert outlets with appropriate structures. Catch basins, drainage ditches, and culverts should be cleaned and maintained regularly.

☐Pesticide use should be limited to nonpersistent, immobile pesticides and should only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

4.19.12 Residual Impacts After Mitigation

Following implementation of BMPs and mitigation measures provided in Section 4.19.11 and discussed throughout Sections 4.19.3 through 4.19.10, all adverse impacts to water resources resulting from construction, operation and maintenance, or decommissioning of the AEWP or an alternative would be avoided or substantially reduced. Mitigation Measures 4.19-1 through 4.19-7, as identified above, have been designed to address AEWP-specific effects as related to water resources, and no adverse impacts to water resources would occur as a result of these mitigation measures. There would be no adverse unavoidable impacts to water resources.

4.20 Wildland Fire Ecology

4.20.1 Methodology for Analysis

The California Department of Forestry and Fire Protection (CAL FIRE) maps and datasets on statewide Fire Hazard Severity Zones (FHSZ), aerial photographs, and site reconnaissance documenting vegetation conditions were all used to determine wildfire risk in the vicinity of the AEWP site. Published literature on fire behavior and indirect impacts on natural resources was reviewed to assess potential indirect impacts.

4.20.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on wildland fire ecology if it would:

WF-1 Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.20.3 Alternative A: Project

The direct effects of wildland fires include the loss of life and property. The indirect effects on natural resources that can result from an increase in the frequency and/or severity of wildfires are described here, and are common to all alternatives. The potential direct and indirect impacts resulting from the construction, operation, maintenance and decommissioning of the Project (Alternative A) are described in Section 4.20.3.1.

Environmental Effects of Fires

Although fire can benefit natural ecosystems that have evolved with occasional fire and that benefit from the stimulation of growth through the reproduction of plants and wildlife habitat, fire can also be detrimental to biological and other natural resources, such as air quality and water quality.

Biological Resources

Weedy species have been known to invade desert and semi-desert habitats in areas where fires have occurred infrequently because of scant fuels sources. Because vegetation communities can be converted following fire, these changes in dominant vegetation communities can drastically affect plant and animal habitat and can affect the prevalence of special-status species. When fires occur in these areas, vegetation can change (such as converting to non-native grasses) and become more susceptible to ignition. Animals within desert ecosystems are ill-suited to avoid fire and often struggle to use resources and prosper in post-fire communities (CPUC and BLM, 2008).

Air Quality

Carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, and other constituent materials are all present in wildfire smoke. The specific composition of smoke depends largely on the fuel type (vegetation types contain different amounts of cellulose, oils, waxes, and starches, which when ignited produce different compounds). In addition, hazardous air pollutants and toxic air contaminants, such as benzene and formaldehyde, are also present in smoke. However, the principal pollutant of concern from wildfire smoke is particulate matter. In general, particulate matter from smoke is very small in size and can be inhaled into the deepest recesses of the lungs, presenting a serious health concern (Lipsett, 2008).

Large quantities of pollutants can be released by wildland fires over a relatively short period of time. Air quality during large fires can become severely hazardous and can remain impaired for several days after the fire is ignited.

Water Quality

Fire can affect water quality by increasing potential for erosion and sedimentation in areas where vegetation has been burned by fire. Water chemistry can also be altered through the introduction of pollutants and chemical constituents. Aquatic environments may also be impacted through the introduction of fire retardant chemicals used during firefighting activities.

Erosion and Sedimentation. Watersheds severely burned by wildfire are vulnerable to accelerated rates of soil erosion and can experience large amounts of post-fire sediment deposits. Increases in post-fire suspended sediments in streams can result from erosion and overland flow, channel scouring, and creep accumulations in stream channels after an event (USDA, 2005).

Water Chemistry. Ash deposits generated by a fire can affect the pH of water immediately after the event, potentially increasing to levels that violate water quality standards. In addition, increases in the pH of nearby soil can also cause increases in stream flow pH (USDA, 2005). Dissolved nitrogen levels can increase after fires as a result of accelerated mineralization and nitrification (dissolved nitrogen is commonly studied as an indicator of fire disturbance), but these levels do not typically exceed established water quality standards (USDA, 2005). Dissolved phosphorous, sulfur, chloride, and total dissolved solids levels can increase after a fire, but studies have shown that these increases typically do not result in violation of drinking water quality standards (USDA, 2005).

Fire Retardant. The use of fire retardants to protect communities, sensitive resources, or other assets has proven highly effective, but it can have a direct effect on aquatic environments. The use of ammonium-based retardants can affect water quality and, in some instances, they can be toxic to aquatic biota (USDA, 2005). Nitrogen-containing retardants can potentially affect drinking water quality, and retardants containing sodium ferrocyanide (YPS) can potentially be lethal for aquatic organisms (USDA, 2005).

4.20.3.1 Direct and Indirect Impacts

Construction

As noted in section 3.21, Wildland Fire Ecology, the AEWP site is located in an area with both "Moderate" and "Non-Wildland/Non-Urban" fire threat ratings.

Water trucks would be used to support the AEWP's water needs, including water for concrete mixing; however, no dedicated water tanks or water trucks are proposed for fire suppression.

Construction activities involving the use of vehicles and heavy machinery, and personnel smoking at the AEWP site could result in the ignition of a wildfire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers, explosives used during site preparation, and improper disposal of cigarettes could potentially ignite surrounding vegetation. Although the characteristics of the site present a moderate fire hazard, during extreme weather conditions a grass fire originating at the site could spread up the slopes of the adjacent Tehachapi Mountains out of control and pose a risk to life and property.

The probability of a wildfire to occur as a result of AEWP construction would be moderate due to the moderately risk of the site conditions and climate, and the proposed high level of heavy equipment use. A wildfire that escapes control and spreads into the mountains could result in a high level of damage, and the risk of fire as a result of AEWP construction is therefore considered substantial. The level of "risk" of an event is a combination of the probability of an event's occurrence and the magnitude of the damages of the event's occurrence. Calculations of the risk of low-probability, high-damage events yield a moderate

risk. However, history has shown that society is particularly risk-averse to low-probability, high-damage events

If the introduction of invasive, non-native plants is not controlled during construction, over time the AEWP site could become dominated with non-native plants that tend to increase the frequency and severity of wildfires. As discussed in Section 2.1.3.6, general construction BMPs, the following would occur as part of the AEWP:

- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas

Additionally, general construction BMPs (refer to Section 2.1.3.6) require the AEWP to comply with all measures included in the Proponent Program of Development (POD) submitted to the BLM. Within the POD, measures are identified to reduce invasive vegetation at the site and its associated facilities. POD measures include the Project Proponent to develop a plan for control of noxious weeds and invasive plants, which could occur as a result of new surface disturbance activities at the site, including:

- Operators should develop a plan for control of noxious weeds and invasive plants, which could occur as a result of new surface disturbance activities at the site. The plan should address monitoring, weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching should be required.
- If trucks and construction equipment are arriving from locations with known invasive vegetation problems, a controlled inspection and cleaning area should be established to visually inspect construction equipment arriving at the AEWP area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.
- Access roads and newly established utility and transmission line corridors should be monitored regularly for invasive species establishment, and weed control measures should be initiated immediately upon evidence of invasive species introduction.
- Fill materials that originate from areas with known invasive vegetation problems should not be used.
- Certified weed-free mulch should be used when stabilizing areas of disturbed soil.
- Habitat restoration activities and invasive vegetation monitoring and control activities should be initiated as soon as possible after construction activities are completed.
- All areas of disturbed soil should be reclaimed using weed-free native shrubs, grasses, and forbs.
- Pesticide use should be limited to non-persistent, immobile pesticides and should only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

Implementation of these BMPs would not completely eliminate the introduction of noxious weeds into the study area, but it would minimize their introduction and control their spread on the AEWP site. Additionally, Mitigation Measure 4.17-5 (Habitat Restoration and Vegetation Plan) within Section 4.17 (Vegetation Resources) would further ensure weed control within the AEWP site.

Mitigation Measure 4.20-1 (Fire Safety Plan) would require development and implementation of a fire management plan, including minimum standards for fire-safe practices during construction, which would minimize the potential for a wildfire ignition to occur as a result of project-related construction practices activities and the presence of personnel on site. Because these mitigation measures would not disturb or disrupt the natural environment and would not threaten the health or safety of people, their implementation would not result in adverse impacts.

Operation and Maintenance

Operation of the AEWP could result in wildfire ignition if the rotor blades were to spin out of control resulting in a fire in the nacelle. In addition, during operation, lightning strikes on WTGs could create power surges that could result in a fire.

Wind turbines can be the source of wildfire ignitions due to collection line failure, turbine malfunction or mechanical failure, and lightning- and bird-related incidents. When mechanical or electrical failures cause turbines to catch fire, they may burn for many hours due to the limited ability of fire suppression crews to effectively fight fires hundreds of feet above the ground. High-wind conditions are risky for both WTG malfunction and the spread of wildfire. However, most modern wind turbine generators are designed with the transformer located at the base of the unit where the hydraulic hoses and fluids are not situated above the electrical systems. This design can substantially reduce fire risk. All units are designed in accordance with design parameters certified by local and national electrical, engineering and fire safety specialist commissions.

In the unlikely event of a failure of any installed self-extinguishing system or other manufacturer fire-prevention measures, wind-blown flaming debris from a turbine fire can ignite vegetation in the surrounding area. In addition, pad-mounted transformers can explode and result in a wildfire ignition, although this is expected to be a rare occurrence. However, vegetation clearance requirements and AEWP design features and AEWP operations would reduce the potential for wildfire ignition and the potential for a wildfire to spread out of control. The Project Proponent would be required to comply with vegetation clearance requirements around structures at the site, as described in Section 3.21.2 (Applicable Regulations, Plans, and Standards). In addition, as proposed, each WTG at the proposed AEWP site would be equipped with a fire detection system. A lightning rod would be installed atop the nacelle at each WTG, lightning shielding would be installed on all blades, and shielding would be installed on other sensitive equipment as well, which would reduce the risk of lightning-induced wildfire at the site. In addition, temporary and permanent roads across the proposed AEWP site would break the continuity of fuels at the site, which would slow or stop the progression of potential wildfires originating at the site.

The height of the WTGs could interfere with aerial firefighting operations by obstructing low-level flight paths within the site boundaries. While the presence of the AEWP WTGs along with other wind energy facilities could restrict aerial fire fighters access to portions of the AEWP site, aerial firefighting would not be obstructed around the perimeter of the site, ensuring that fire containment would be feasible regardless of the existence of WTGs on the landscape. Obstruction of aerial firefighting from the presence of WTGs would be minimal. The probability of a wildfire to occur as a result of AEWP operations would be low due to the site conditions and proposed activities; however, a wildfire that escapes control and spreads into the mountains could result in a high level of damage to biological resources and other natural resources, such as air quality and water quality as discussed above, in addition to the potential for loss of life and destruction of property.

As discussed above, general construction BMPs requiring the AEWP to comply with all POD measures includes the Project Proponent to develop a plan for control of noxious weeds and invasive plants, which would occur during AEWP operation. The implementation of this BMP would minimize the potential for weed colonization and dominance on site by requiring implementation of a risk assessment of the invasive weed species currently known within the study area, procedures to control their spread on site, and procedures to help minimize the introduction of new weed species. Additionally, Mitigation Measure 4.17-1 (Habitat Restoration Plan) within Section 4.17 (Vegetation Resources) would further ensure weed control within the AEWP site.

Mitigation Measure 4.20-2 (Fire Truck Funding) would require that the Project Proponent either install an automatic fire extinguishing system that complies with international standards for fire protection systems on each wind turbine generator at the project site or purchase an Industrial Mini Pumper for the Kern County Fire Department. Because these mitigation measures would not disturb or disrupt the natural

environment and would not threaten the health or safety of people, their implementation would not result in adverse impacts.

Mitigation Measure 4.20-3 (Emergency Response Liaison – Fire) would minimize the potential for fire ignition during a Red Flag Warning issued by the National Weather Service by ceasing all non-emergency construction and maintenance activities, thus reducing the potential for and severity of wildfire resulting from the AEWP.

Decommissioning

The risk of wildfire ignition during decommissioning would be similar to that during construction, through the use of equipment and personnel on site. Mitigation Measure 4.20-1 (Fire Safety Plan) includes a provision for fire-safe practices during decommissioning activities.

4.20.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP are presented below based on the CEQA Significance Criterion presented in Section 4.20.2.

Construction, Operation and Maintenance, Decommissioning

- **WF-1 (Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands).** Implementation of AEWP BMPs and Mitigation Measures 4.20-1 (Fire Safety Plan), 4.20-2 (Fire Truck Funding), 4.20-3 (Emergency Response Liaison – Fire), and 4.17-5 (Habitat Restoration Plan) would reduce the impact to CEQA significance criterion WF-1 to a less than significant level.

4.20.4 Alternative B: Revised Site Layout

4.20.4.1 Direct and Indirect Impacts

The direct effects of fires include loss of life and property. The indirect effects on natural resources that can result from the increase in the frequency and severity of wildfires are described in Section 4.20.3. Direct and indirect impacts resulting from construction, operation, and decommissioning of Alternative B are described in this section.

Construction

The wildfire-related construction impacts of Alternative B would be nearly identical to that of Alternative A.

Operation and Maintenance

The wildfire-related operational impacts of Alternative B would be identical to that of Alternative A.

Decommissioning

The wildfire-related decommissioning impacts of Alternative B would be identical to that of Alternative A.

4.20.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The CEQA significance determinations for Alternative B are the same as for Alternative A.

4.20.5 Alternative C: Reduced Project North

4.20.5.1 Direct and Indirect Impacts

The direct effects of fires include loss of life and property. The indirect effects on natural resources that can result from the increase in the frequency and severity of wildfires are described in Section 4.20.3. Direct and indirect impacts resulting from construction, operation, and decommissioning of Alternative C are described in this section.

Construction

The wildfire-related construction impacts of Alternative C would be nearly identical to that of Alternative A. Construction activities would be slightly less intense due to a reduced number of WTGs, but the risk of wildfire ignition and the increase in wildfire frequency from the introduction of non-native plants would be substantially the same.

Operation and Maintenance

The wildfire-related operational impacts of Alternative C would be nearly identical to that of Alternative A. Maintenance activities would be slightly less intense and there would be fewer WTGs that could potentially start a fire, but the risk of wildfire ignition and the increase in wildfire frequency from the introduction of non-native plants would be substantially the same.

Decommissioning

The wildfire-related decommissioning impacts of Alternative C would be nearly identical to that of Alternative A. Decommissioning activities would be slightly less intense as a result of fewer turbines, but the risk of wildfire ignition would be substantially the same.

4.20.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

The CEQA significance determinations for Alternative C are the same as for Alternative A.

4.20.6 Alternative D: Reduced Project Southwest

4.20.6.1 Direct and Indirect Impacts

The direct effects of fires include loss of life and property. The indirect effects on natural resources that can result from the increase in the frequency and severity of wildfires are described in Section 4.20.3. Direct and indirect impacts resulting from construction, operation, and decommissioning of Alternative D are described in this section.

Construction

The wildfire-related construction impacts of Alternative D would be nearly identical to that of Alternative A. Construction activities would be slightly less intense due to a reduced number of WTGs, but the risk of wildfire ignition and the increase in wildfire frequency from the introduction of non-native plants would be substantially the same.

Operation and Maintenance

The wildfire-related operational impacts of Alternative D would be nearly identical to that of Alternative A. Maintenance activities would be slightly less intense and there would be fewer WTGs that could

potentially start a fire, but the risk of wildfire ignition and the increase in wildfire frequency from the introduction of non-native plants would be substantially the same..

Decommissioning

The wildfire-related decommissioning impacts of Alternative D would be nearly identical to that of Alternative A. Decommissioning activities would be slightly less intense as a result of fewer turbines, but the risk of wildfire ignition would be substantially the same.

4.20.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

The CEQA significance determinations for Alternative D are the same as for Alternative A.

4.20.7 Alternative E: No Issuance of a ROW Grant or County Approval; No LUP Amendment (No Project/No Action)

4.20.7.1 Direct and Indirect Impacts

Under Alternative E, the AEWP would not be constructed and no impacts would occur from the AEWP. However, the land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's land use plan, including recreation, livestock grazing, and utility lines in designated corridors. These activities could potentially result in wildfire ignitions, but ignitions would be expected to occur at a lower rate than under the heavy construction and long-term operation of the Alta East Wind Project. Impacts related to wildland fire ecology under Alternative E would not be substantial.

4.20.7.2 CEQA Significance and Impact Determinations, Alternative E: No Issuance of a ROW Grant or County Approval; No LUP Amendment (No Project/No Action)

Alternative E would result in no wildland fire ecology impacts and, therefore, no CEQA significance determinations have been made.

4.20.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.20.8.1 Direct and Indirect Impacts

Under Alternative F, the AEWP would not be constructed and no impacts would occur from the Alta East Wind Project. However, the land on which the AEWP is proposed would become available to other uses that are consistent with the BLM's land use plan, including recreation, livestock grazing, and utility lines in designated corridors, but excluding wind energy development. These other activities could potentially result in wildfire ignitions, but ignitions would be expected to occur at a lower rate than under the heavy construction and long-term operation of the Alta East Wind Project. No impacts associated with the AEWP would occur.

4.20.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F would result in no wildland fire ecology impacts related to the AEWP, and therefore no CEQA significance determinations can be made.

4.20.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

4.20.9.1 Direct and Indirect Impacts

Under Alternative G, the AEWP would not be constructed and no impacts would occur from the Alta East Wind Project. However, the land on which the AEWP is proposed would become available to other wind energy facilities. These activities could potentially result in wildfire ignitions similar to Alternative A. With implementation of the same mitigation measures identified for Alternative A, impacts related to wildland fire ecology under Alternative G would not be substantial.

4.20.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Wind Energy Development Project (No Project)

The CEQA significance determinations for any future projects under Alternative G would be the same as for Alternative A.

4.20.10 Cumulative Impacts

4.20.10.1 Geographic Extent/Context

The geographic area for cumulative wildland fire impacts includes the area within one mile of the site boundary for wildland fire impacts and the temporal scope for cumulative wildland fire impacts includes the duration of construction, operation, and decommissioning of the Alta East Wind Project. Two of the cumulative projects described in Table 4.1-1 are within the cumulative study area for wildland fire; these are the Rising Tree Wind Energy Project and the Greg Lansing/Oliver Cagle Mojave Specific Map Plan Designation changes. In addition, the existing State Route 58 (SR 58) is within the cumulative study area for wildland fire.

4.20.10.2 Existing Cumulative Conditions

A cumulative wildland fire impact would occur if multiple projects were to increase the frequency of fires in the same location, which would result in indirect impacts on natural resources as described in Section 4.20.3.

4.20.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects, various BLM-authorized actions/activities, proposed or approved projects within the County's jurisdiction, and other actions/activities that the Lead Agencies consider reasonably foreseeable. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-2, their effects were considered in the cumulative impacts analyses in this EIS/EIR. The reasonably foreseeable projects for consideration in this cumulative analysis have been chosen in part due to their physical proximity to the Alta East Wind Project and the timing of the projects' construction periods, but also for the ability of wildfire and smoke to affect the greater geographic area. The reasonably foreseeable projects within the cumulative geographic and temporal context of the Alta East Wind Project for wildland fire ecology impacts:

- Alta Infill II Wind Energy Project
- Rising Tree Wind Energy Project
- North Sky River Wind Energy Project and Jawbone Wind Energy Project
- The Aeromen LLC solar project
- North Star Properties Cluster Combining District Plan changes
- Greg Lansing/Oliver Cagle Mojave Specific Map Plan Designation changes
- California high-speed train

4.20.10.4 Construction

The Alta Infill II Wind Energy Project, Rising Tree Wind Energy Project, North Sky River Wind Energy Project and Jawbone Wind Energy Project, Aeromen LLC solar project, Greg Lansing/Oliver Cagle Mojave Specific Map Plan Designation changes, North Star Properties Cluster Combining District Plan changes, California high-speed train, and SR 58 are located within the cumulative study area for wildland fire. The Alta East Wind Project is would likely be under construction concurrently with the Rising Tree Wind Energy Project. It is unknown whether construction associated with the Alta East Wind Project would occur at the same time as any construction following changes to the Mojave Specific Map Plan Designations or North Star Properties Cluster Combining District Plan changes. SR 58 is an existing project. Construction and residential use in the Mojave Specific Plan area could result in wildfire ignitions due to the use of heavy equipment, smoking, or welding. Ignitions from SR 58 could originate from drivers throwing cigarette butts out car windows. Wildfire ignitions due to construction of these cumulative projects could result in wildfire ignitions. Wildfire ignitions from the Alta East Wind Project could combine with ignitions from the Alta Infill II Wind Energy Project, Rising Tree Wind Energy Project, North Sky River Wind Energy Project and Jawbone Wind Energy Project, the Greg Lansing/Oliver Cagle Mojave Specific Map Plan Designation changes, North Star Properties Cluster Combining District Plan changes, California high-speed train, and drivers on SR 58 to increase the frequency of wildfires above the baseline fire frequency. The combination of these projects being constructed concurrently could substantially increase the frequency of fire in the area above natural conditions. However, with implementation of the BMPs and mitigation measures required for the AEWP: (Fire Safety Plan), 4.20-2 (Fire Truck Funding), 4.20-3 (Emergency Response Liaison – Fire), and 4.17-5 (Habitat Restoration Plan), the contribution of the AEWP to this cumulative impact would be minimized, and similarly, the extensive fire-safe mitigation measures required for these other projects would minimize wildfire ignitions from these sources. As a result, the overall cumulative increase in fire frequency would not be substantial. Because this mitigation measure would not disturb or disrupt the natural environment and would not threaten the health or safety of people, its implementation would not result in adverse impacts.

4.20.10.5 Operation and Maintenance

The Alta East Wind Project is scheduled to in operation concurrently with the existence of the Alta Infill II Wind Energy Project, North Sky River Wind Energy Project and Jawbone Wind Energy Project, and Rising Tree Wind Energy Project. Interstate 8 is an existing project. Residential use of the development associated with the Greg Lansing/Oliver Cagle Mojave Specific Map Plan Designation changes could result in wildfire ignitions due to the use of outdoor equipment or smoking. Transmission lines can cause in wildfire ignitions if maintenance is not properly conducted, if a low-flying plane or helicopter were to crash into the line, or sometimes as a result of wildlife collisions. Ignitions from SR 58 could originate from drivers throwing cigarette butts out car windows. Wildfire ignitions due to operation and use of these cumulative projects could result in wildfire ignitions. Wildfire ignitions from the Alta East Wind Project could combine with ignitions from the Alta Infill II Wind Energy Project, North Sky River Wind Energy Project and Jawbone Wind Energy Project, Rising Tree Wind Energy Project, Mojave Specific

Plan development, North Star Properties development, California high-speed train and drivers on SR 58 to increase the frequency of wildfires above the baseline fire frequency.

However, with the implementation of BMPs and mitigation measures required for the AEWP: (Fire Safety Plan), 4.20-2 (Fire Truck Funding), 4.20-3 (Emergency Response Liaison – Fire), and 4.17-5 (Habitat Restoration Plan), the contribution of the AEWP to this cumulative impact would be minimized by requiring implementation of a risk assessment of the invasive weed species currently known within the study area, procedures to control their spread on site, and procedures to help minimize the introduction of new weed species. Because this mitigation measure would not disturb or disrupt the natural environment and would not threaten the health or safety of people, its implementation would not result in adverse impacts.

4.20.10.6 Decommissioning

The Alta East Wind Project would be decommissioned several decades into the future, and there may be other developments at that time that may occur concurrently with AEWP decommissioning. It is anticipated that the Rising Tree Wind Energy Project, Mojave Specific Plan development, and SR 58 would be in existence at the time of AEWP decommissioning. Operation and use of these cumulative projects could result in wildfire ignitions. Wildfire ignitions from decommissioning of the Alta East Wind Project could combine with ignitions from the Alta Infill II Wind Energy Project, Rising Tree Wind Energy Project, Mojave Specific Plan development, California high-speed train, and drivers on SR 58 to increase the frequency of wildfires above the baseline fire frequency. With mitigation measures required for the AEWP: (Fire Safety Plan), 4.20-2 (Fire Truck Funding), 4.20-3 (Emergency Response Liaison – Fire), and 4.17-5 (Habitat Restoration Plan), the contribution of the AEWP to this cumulative impact would be minimized by requiring implementation of a risk assessment of the invasive weed species currently known within the study area, procedures to control their spread on site, and procedures to help minimize the introduction of new weed species. Because this mitigation measure would not disturb or disrupt the natural environment and would not threaten the health or safety of people, its implementation would not result in adverse impacts.

4.20.10.7 CEQA Significance and Impact Determination, Cumulative

Significance conclusions for the impacts identified are presented below based on the CEQA Significance Criterion presented in Section 4.20.2.

- **WF-1 (Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands).** With the implementation of mitigation measures required for the AEWP: 4.20-1 (Fire Safety Plan), 4.20-2 (Fire Truck Funding), 4.20-3 (Emergency Response Liaison – Fire), and 4.17-5 (Habitat Restoration Plan), the contribution of the AEWP to this cumulative impact would be less than significant and not cumulatively considerable.

4.20.11 Mitigation Measures

MM 4.20-1 **Fire Safety Plan**. Prior to the issuance of grading or building permits by the County, and/or a Notice to Proceed by the BLM, the project proponent shall develop and submit a *Fire Safety Plan* for review by the BLM and Kern County Fire Department. The Fire Safety Plan shall specify the notification procedures and emergency fire precautions to be implemented during the construction and operation of the project and shall contain maps of the project site and access roads, along with descriptions of how the following procedures will be implemented:

1. All internal combustion engines used at the project site shall be equipped with spark arresters. Spark arresters shall be in good working order.

2. Light trucks and cars shall be used only on roads where the roadway is cleared of vegetation. Mufflers on all cars and light trucks shall be maintained in good working order.
3. Fire rules shall be posted on the project bulletin board at the contractor's field office and areas visible to employees.
4. Equipment parking areas and small stationary engine sites shall be cleared of all extraneous flammable materials.
5. Personnel shall be trained in the practices of the Fire Safety Plan relevant to their duties. Construction and maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats.
6. The project proponent shall make an effort to restrict use of chainsaws, chippers, vegetation masticators, grinders, drill rigs, tractors, torches, and explosives to outside of the official fire season. When the above tools are used, water tanks equipped with hoses, fire rakes, and axes shall easily accessible to personnel.
7. Smoking shall be prohibited in wildland areas and within 50 feet of combustible materials storage, and shall be limited to paved areas or areas cleared of all vegetation.
8. Fires ignited onsite shall be immediately reported to BLM FIRE and the Kern County Fire Department.
9. The engineering, procurement, and construction contract(s) for the proposed project shall clearly state the requirements of this mitigation measure.
10. The project proponent shall confer with the BLM and Kern County Fire Department regarding the need to install dip tanks within the project site. Should dip tanks be required, the project proponent shall construct dip tanks as specified by the BLM and/or Kern County Fire Department.

MM 4.20-2 **Fire Truck Funding**. Prior to energizing the project, the project proponent shall perform one of the following options in consultation with the Kern County Planning and Community Development Department, the Kern County Fire Department and the County Administrative Office to reduce fire impacts:

Option 1: Install an automatic fire extinguishing system that complies with international standards for fire protection systems on each wind turbine generator at the project site. Proof of system installation shall be submitted to Kern County.

Option 2: Purchase at a cost not to exceed $350,000 an Industrial Mini Pumper for the Kern County Fire Department. If an Industrial Mini Pumper has already been purchased for the project area, the Fire Department shall consult with the County Administrative Office (CAO) to determine if there are any outstanding reimbursement requirements associated with that purchase. If the Industrial Mini Pumper has not yet been fully reimbursed by the County, then the project proponent shall pay their proportionate share of $88,000.00 to the Planning and Community Development Department for the purpose of reimbursement of the pumper.

Option 3: If an Industrial Mini Pumper has already been purchased and reimbursed by the County, the purchase of other fire extinguishing equipment shall occur in an alternative manner that has been mutually agreed upon by the project proponent and Kern County.

MM 4.20-3 **Emergency Response Liaison – Fire**. The project proponent shall continuously comply with the following during implementation of the project: When a Red Flag Warning is issued by the National Weather Service for the project area, all non-emergency construction and maintenance activities shall cease. This provision shall be clearly stated in the Fire Safety Plan. The Emergency Response Liaison shall ensure implementation of a system that allows for immediate receipt of Red Flag Warning information from the Los Angeles/Oxnard office of the National Weather Service.

4.20.12 Residual Impacts After Mitigation

Implementation of mitigation measures defined in Section 4.20.11 would minimize the impacts of the Alta East Wind Project on wildland fire incidence in the surrounding area. There would be no unavoidable adverse impacts.

4.21 Wildlife Resources

4.21.1 Methodology for Analysis

This analysis is based on information from the focused wildlife surveys and avian and bat use studies conducted for the Alta East Wind Project (AEWP) as well as information found in the California Natural Diversity Database (CNDDB) and lists of special-status species (see Section 3.21 for details). As discussed in Chapter 3.21, focused wildlife surveys were conducted for: desert tortoise (*Gopherus agassizii*), Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*) nests, other nesting raptors, avian point counts, bats, and Mohave ground squirrel (*Xerospermophilus mohavensis*) and special-status mice.

4.21.1.1 Direct and Indirect Impacts

Effects to wildlife resources from the AEWP are classified as direct or indirect. *Direct impacts* are those impacts that result from a project and occur at the same time and place [40 C.F.R 1508.8(a)]. *Indirect impacts* are caused by a project, but can occur later in time or farther removed in distance while still reasonably foreseeable and related to the project [40 C.F.R 1508.8(b)].

The potential impacts discussed in this analysis are those most likely to be associated with construction and operation of the AEWP. Construction impacts would include both direct and indirect impacts to wildlife resources. Operational impacts would also include both direct and indirect impacts to wildlife resources. Ongoing operations and maintenance impacts would occur during routine inspection and maintenance of the project facilities and would include such activities as routine inspections and emergency repairs. Operational impacts would remain an ongoing source of disturbance for many wildlife species that occur within the fenced facility perimeter and in adjacent habitat.

Project impacts are considered permanent if they would involve the conversion of land to a new use, such as with the construction of new roads, foundations for the WTGs, or operation and maintenance (O&M) facilities. Temporary project impacts are those effects that do not result in the permanent land use conversion. Temporary effects to habitat or other ground disturbance activities restricted solely to the construction phase, such as grading roads and clearing vegetation within staging areas, are considered temporary, provided that native vegetation is not replaced with infrastructure or the area is not maintained free of vegetation, and that restoration is deemed feasible prior to AEWP implementation.

4.21.2 CEQA Thresholds of Significance and Criteria

The Kern County CEQA Implementation Document and Kern County Environmental Checklist state that a project would have a significant impact on wildlife resources if it would:

WL-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service;

WL-2 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

WL-3 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

WL-4 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The AEWP would not conflict with the provisions of an approved local, regional, or state Habitat Conservation Plan (Significance Criterion WL-4) because no such plan is currently applicable to the AEWP project site. The AEWP is within the boundaries of the West Mojave Plan (WEMO), which is comprised of a pending Habitat Conservation Plan and an approved amendment to the Bureau of Land Management's (BLM's) California Desert Conservation Area Plan for the desert tortoise, Mohave ground squirrel, and nearly 100 additional species. The WEMO was approved in 2006 as an amendment to the 1980 CDCA Plan for federal lands under the jurisdiction of the BLM, while the portion of the WEMO that would apply to non-BLM lands within the AEWP application area is still pending. Therefore, the regional Habitat Conservation Plan portion of the WEMO is not currently applicable to the AEWP. Through AEWP design and implementation of the mitigation measures described in this section, the AEWP would remain consistent with the conservation goals of the WEMO. Therefore, no impact would occur and Significance Criterion WL-4 is not considered further in this section.

4.21.3 Alternative A: Project

4.21.3.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts covers construction, operations and maintenance (O&M), and decommissioning of the AEWP. Direct effects include the direct or immediate effects of the AEWP on a species or its habitat. Indirect effects include those effects that are caused by or will result from the AEWP and are later in time, but are still reasonably certain to occur.

Construction

Invertebrates

Specific surveys for invertebrates were not conducted for the AEWP. However, there is a moderate potential for Kern shoulderband and whitefir shoulderband to occur based on known distributions and habitat use for these species (CNDDB, 2011). These species are considered "special animals" by CDFG, which means they currently hold no special status at the state or federal level but are tracked in the California Natural Diversity Database (CNDDB). Direct impacts to special-status snails, if present, could include crushing by vehicular or foot traffic during construction activities and permanent loss of habitat. Potential indirect impacts to these species include compaction of soils and the introduction of exotic plant or animal species (i.e., Argentine ants, brown garden snail [*Cornu aspersum*; formerly *Helix aspersa*] or decollate snails [*Rumina decollate*]). Operational impacts could include risk of mortality due to increased use of the project area by maintenance personnel. Although these species may be subject to direct, indirect, and operational impacts as a result of implementation of the AEWP, Kern shoulderband and whitefir shoulderband are expected to be widely distributed throughout Kern County in microhabitats that support suitable soil moisture, foliage, and cover. Impacts associated with the

AEWP would be localized and are not likely to result in adverse effects to viable populations of these species.

Desert Tortoise

Five (5) individuals and numerous sign (burrows, scat, tracks, etc.) were recorded during protocol surveys of the AEWP site in 2009. Additional inactive burrows and a carcass were recorded during 2010 and 2011 protocol surveys. One (1) individual was observed incidentally within the AEWP area during 2009/2010 avian use studies. One (1) adult male, one (1) carcass, scat, tracks, and five (5) burrows were detected during burrowing owl surveys in 2010, and one (1) inactive burrow was recorded during 2011 burrowing owl surveys. Suitable habitat is abundant throughout the project area and along the transmission line route.

Direct effects to desert tortoise from construction could include mortality or injury, long- or short-term avoidance of their habitat in this area and habitat loss/degradation. Vehicles and heavy construction equipment pose the greatest hazard to tortoises and their burrows. Individual tortoises could be crushed because of vehicle or heavy equipment traffic on access roads, in staging areas, or in other portions of the construction area, if the species is present within the construction area. Tortoise burrows could be unintentionally collapsed or buried by heavy equipment if occupied burrows are located within the construction area. Actions that may cause short- or long-term avoidance of suitable habitat within the action area include: clearing and grubbing; grading and graveling; excavation and trenching; pouring foundations; installation of wind turbine generators (WTGs), met towers, transmission poles, and appurtenant facilities; installation of security fencing; use of access roads and laydown yards; biological and cultural resource monitoring; and restoration activities. These activities are associated with elevated levels of noise, vibration, and artificial lighting. The effects would occur daily throughout the scheduled construction period.

Ground-disturbing activities such as clearing and grubbing; grading and graveling; and trenching will result in temporary and permanent habitat loss. The maximum ground disturbance in tortoise habitat that would result from permanent project features and the temporary construction ROW is estimated at 656 acres. Of this, roughly 94 acres would be permanent habitat loss.

Destroyed burrows would no longer support breeding tortoises and would therefore potentially result in the loss of one (1) breeding season for breeding adult tortoises. The loss of a single breeding season for a species that is very slow to reach sexual maturity and with low recruitment throughout its range would be an adverse impact.

Indirect impacts to desert tortoises from construction of the AEWP may include introduction of exotic plant species that could result in degradation of foraging and sheltering habitat and an increase of fire cycles in desert tortoise habitat. Other potential indirect effects are reduced breeding activity, reduced survival, and, potentially, a population increase. Clearing and grubbing; grading and graveling; excavation and trenching; pouring foundations; installation/removal of WTGs, met towers, and appurtenant facilities; installation of security fencing; use of access roads and laydown yards; and reclamation activities could indirectly reduce breeding activity by destroying foraging habitat which could impair breeding adults' nutrition and ability to reproduce. The deposition of fugitive dust generated by project construction activities onto nearby vegetation could also adversely affect tortoises' foraging opportunities. Construction of wind developments could provide resources in the form of trash, litter, or water, which attract and subsidize unnaturally high numbers of predators such as the

common raven, kit fox, and coyote. This influx of predators could then place unnaturally high predation pressure on desert tortoises and other special-status species in the region. Predation of juvenile tortoises by common ravens is a well-documented source of mortality for tortoise populations throughout the Mojave Desert.

Ravens habituate to human activities and are subsidized by the food and water, as well as roosting and nesting resources, that are introduced or augmented by human encroachment. Ravens were commonly identified in the project area and were also observed nesting in the general vicinity. Ravens may use the new transmission line structures as potential nest and perch sites, increasing the potential for loss of tortoises from raven predation. Currently the USFWS has provided recommendations for contributing fees to a regional raven management plan for projects in and near desert tortoise habitat. This fee is used to partially offset project impacts to desert tortoise from increased raven predation associated with transmission lines and other structures.

The AEWP's direct and indirect construction-related impacts to desert tortoises would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.21-4 (Raven Management Plan), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). The following are summaries and descriptions of the project-specific measures that would mitigate impacts to desert tortoises:

- Mitigation Measure 4.21-1 (Designated Biologist) requires the project proponent to employ a Designated Biologist who would be responsible for ensuring compliance with all applicable mitigation measures and requirements as set forth by the appropriate regulatory Agencies, including the authority to halt any project activities that are in violation of the terms of the applicable mitigation measures and requirements; daily compliance inspections; and various reporting requirements.
- Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization) requires minimization of the area required for temporary construction work and operational activities; the use of permanent facility fencing that is designed to facilitate wildlife movement during operation of the AEWP; monitoring of construction activities by the Designated Biologist and relocation of special-status species within work areas in compliance with all project permits; a *Wildlife Mortality Reporting Program* that would be implemented during construction and operation, and require the identification and reporting of any dead or injured animals (both special-status and common species) observed by personnel conducting construction and operation activities; and a speed limit of 15 miles per hour on all dirt access/maintenance roads, and all vehicles must remain on designated access/maintenance roads to minimize the risk of wildlife mortality on roads as well as the generation of excessive airborne dust.

  This measure also requires implementation of a *Worker Education Awareness Program* that all construction and operational crew members must attend, which would educate onsite personnel as to the sensitive biological resources on the site; federal and state regulations applicable to the resources on site and the consequences of non-compliance with these regulations; actions and reporting procedures to be used if desert tortoise, California condor, golden eagle, burrowing owl, Swainson's hawk, Mohave ground squirrel, or American badger

are encountered; fire protection measures; measures to minimize the spread of weeds during construction; hazardous substance spill prevention and containment measures; a contact person at the on-call biological services provider in the event of the discovery of dead or injured wildlife; driving procedures and techniques to reduce mortality of wildlife on roads; and review of mitigation requirements.

- Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) requires pre-construction surveys and minimization measures for a variety of sensitive wildlife, including desert tortoise. This measure requires installation and maintenance of temporary tortoise-proof fencing around project construction areas; clearance surveys within work areas after the installation of fencing; self-locking lids on trash receptacles at the work site to prevent entry by opportunistic predators such as common ravens and coyotes; the requirement that whenever a vehicle or any construction equipment is parked longer than 15 minutes within desert tortoise habitat the ground around and underneath the vehicle will be inspected for desert tortoises prior to moving the vehicle; the requirement that, unless otherwise authorized through the context of the Biological Opinion (BO) and 2081 take authorization, any tortoise encountered in the work area will be left to move on its own and would not be handled; a biological monitor will survey for tortoises immediately in front of vegetation clearance activities; avoidance of desert tortoise burrows unless otherwise authorized by the USFWS and CDFG; Construction pipe, culvert, or similar structures with a diameter greater than three (3) inches and stored less than eight (8) inches above ground on the construction site for one or more nights shall be inspected for tortoises and other special-status wildlife before the material is moved, buried, or capped; open trenches would be fenced with temporary tortoise-proof fencing or inspected by authorized personnel periodically, at the beginning and at the end of each day, and immediately before backfilling; following construction, preparation of a report documenting the numbers and locations of desert tortoises encountered, their disposition, effectiveness of protective measures, practicality of protective measures, and recommendations for future measures that allow for better protection or more workable implementation; notification procedures unpon encountering a dead or injured tortoise; and biological monitoring during any O&M activities conducted during the desert tortoise active period (March 15 to May 31 and September 1 to October 31) that may result in ground disturbance, such as weed management or vehicular access off of a designated access/maintenance road.
- Mitigation Measure 4.21-4 (Raven Management Plan) requires the preparation and implementation of a *Raven Management Plan* that will require measures to minimize the attraction of ravens to the project area (and subsequent increased predation pressure on desert tortoises). These measures will include annual nest removal by a qualified biologist in consultation with the CDFG and the USFWS, removal of carrion at the base of wind turbine generators, storage of garbage in raven-proof containers, and installation of anti-nesting devices on structures where raven nests could be built. In addition, to offset the cumulative contributions of the AEWP to desert tortoise from increased raven numbers, the project proponent would also contribute to the USFWS Regional Common Raven Management Program through the payment of fees not to exceed $150 per disturbed acre. This number shall be verified utilizing the formula established by the Desert Managers Group. The *Raven Management Plan* will be developed in consultation with the USFWS and CDFG.

- Mitigation Measure 4.17-1 (Habitat Restoration and Revegetation Plan) requires revegetation of temporary project impacts and mitigation for permanent impacts to native vegetation that could support desert tortoise and other special-status wildlife, and ruderal or disturbed habitats if those habitats support burrowing owl and/or desert tortoise. Permanent impacts to desert wash and riparian habitat would be mitigated at minimum 3:1 ratio or as specified in the California Department of Fish and Game Streambed Alteration Agreement, whichever is greater. ~~,while a~~ All other native habitats non-native habitats supporting burrowing owl and/or desert tortoise shall be mitigated at a 1:1 ratio for permanent impacts, or as otherwise specified in the California Department of Fish and Game Incidental Take Permit and/or United States Fish and Wildlife Biological Opinion, whichever is greater. ~~would be mitigated at 1:1~~ Permanent impacts would be mitigated through one or more of the following: acquisition and conservation of off-site lands; onsite restoration, enhancement, and management of disturbed areas not impacted by the AEWP; or mitigation banking.
- Mitigation Measure 4.17-5 (Weed Control Plan) requires the project proponent to prepare and implement a plan in accordance with BLM policy regarding weeds, to minimize the establishment and spread of nonnative and invasive weed species within the project area during construction and O&M activities.
- Mitigation Measures AI-1 (Develop and implement a fugitive dust control plan), 4.2-1 (Construction fugitive dust emission reduction) and 4.2-3 (Operation fugitive dust and equipment emission reduction) require dust control measures including the use of soil stabilizers on unpaved roads, use of water to suppress dust on excavated and graded areas, use of water or temporary coverings to suppress dust on excavated soil piles, construction activities that occur on unpaved surfaces will be discontinued during windy conditions when activities cause visible dust plumes unless dust suppression measures are used, rattle traps or a wheel-washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the AEWP property, requirements regarding loading of dump trucks, and revegetation of disturbed as soon as possible after disturbance or during the appropriate growing season.

The AEWP is not located within USFWS designated critical habitat for desert tortoise. Therefore, impacts to desert tortoise critical habitat would not occur.

Coast Horned Lizard, Silvery Legless Lizard

Coast horned lizard was identified within the project area during surveys, and suitable habitat occurs primarily in the northern and central portions of the AEWP site. Silvery legless lizard was determined to have a moderate potential to occur. Sandy ephemeral drainages support suitable habitat for silvery legless lizard. Potential direct impacts to these species during construction of the AEWP include being run over by vehicles on access roads; mechanical crushing during WTG site preparation, grading of new access roads, and preparation of staging locations; fugitive dust; and general disturbance due to increased human activity. Furthermore, project construction may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Individuals of these species could be injured or killed during ground-disturbing activities in undeveloped habitat throughout the project area. Potential indirect impacts to these species include compaction of soils and the introduction of exotic plant and animal (i.e., Argentine ants) species.

The AEWP's direct and indirect construction-related impacts to coast horned lizards and silvery legless lizards would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, moving ground-dwelling special-status species such as coast horned lizard and silvery legless lizard out of harm's way, worker environmental awareness training, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, vehicle speed limits of 15 miles per hour, and control of fugitive dust.

California Condor

As discussed in Section 3.21, California condors are not currently known to use the project area for foraging, and no roosting or nesting habitat occurs in or near the AEWP. USFWS data since 2005 indicate that the nearest documented condor was located in the Tehachapi Mountains, 4.3 miles northeast of the AEWP and a historic location was recorded 2.3 miles west of the AEWP.

It is thought that provision of supplemental food has reduced the foraging range of condors, and elimination of this practice in the Tehachapi Mountains at Tejon Ranch could increase the foraging range of the species. Although current plans call for continued feeding of condors at Tejon Ranch, it is thought that supplemental feeding will no longer be required once the ban on lead ammunition becomes fully effective (Johnson and Howlin, 2011). Therefore, condor foraging range in the Tehachapi Mountains could expand in the future, and portions of the AEWP site provide suitable foraging habitat. The AEWP site provides suitable habitat for big game, primarily mule deer, and the majority of the site is currently grazed by livestock, both of which are potential sources of food for condors (Johnson and Howlin, 2011). Potential foraging habitat is located primarily in the northern and central portions of the site. It is possible that condors could occasionally forage on or pass through the site, especially if the range of the condor expands with continued population growth.

Direct construction-related impacts to condors, if present, include the loss of foraging habitat, the introduction of hazardous microtrash (i.e., broken glass, paper and plastic waste, small pieces of metal such as screws, nuts, and bolts, etc.) and toxic ethylene glycol antifreeze that condors may ingest. Construction debris, litter, leaking equipment, or road kill can attract this species to the project area. This waste is often brought back to nest sites where young birds ingest the material. This can lead to mortality of young birds. Condors are curious birds and have been documented in close association with oil pumps and human activity on the Los Padres National Forest. During cleanup activities at trash sites, condors have been observed sitting on guard rails adjacent to the cleanup activities.

Indirect construction-related effects could result from a disruption of normal foraging activity through the use of the new or improved access roads and subsequent increase in human activities. Degradation and alteration of habitat due to construction activities could preclude use of the project site by condors.

The AEWP's direct and indirect construction-related impacts to California condors would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2

(Wildlife Impact Avoidance and Minimization), 4.21-5 (California Condor), 4.17 1 (Habitat Restoration and Revegetation Plan), 4.17 5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, vehicle speed limits of 15 miles per hour, and control of fugitive dust. Mitigation Measure 4.21-5 (California Condor) requires a biologist with demonstrated knowledge of California condor identification to be on site to monitor all construction activities within the project area; training for workers on the issue of microtrash and its potential effects to California condors; daily sweeps of the work areas to collect and remove trash; immediate clean up and reporting of any spills of ethylene glycol; detailed information regarding the California condor that must be implemented as part of the worker environmental awareness training; reporting of any sightings of condors in the project area to the County, BLM, and the resource agencies within 24 hours; bird flight diverters on all temporary meteorological tower guy wires constructed as part of the AEWP; all permanent meteorological towers shall be free-standing and not contain guy wires; and funding for conservation measures such as radio telemetry, condor feeding programs, or other such measures as deemed appropriate shall be provided to the California Condor Recovery Program. In addition, Mitigation Measure 4.21-5 (California Condor) requires a full-time monitor to be present on site during periods of livestock grazing to ensure immediate removal of livestock carcasses that could attract condors to the project site and increase the potential for WTG strikes (discussed below in Section 4.21.3.3). The project proponent would also be required to work together with the area grazing permittees to develop Best Management Practices to minimize attraction of condors to the project area, such as removing livestock carcasses to an off-site location far enough from wind developments so as not to present a risk to condors foraging on the carcasses and well as making all watering troughs inaccessible to wildlife (covered, empty, etc.) during periods when grazing is not occurring.

The AEWP is not located within USFWS designated critical habitat for California condor. Therefore, impacts to California condor critical habitat would not occur.

Golden Eagle

The golden eagle is a resident in the Tehachapi Mountains where numerous shallow caves, ledges, and rocky outcrops occur. This species was observed foraging in the project area during fixed-point bird use surveys in ~~all four (4) seasons~~ fall of 2010 and winter of 2010/11. Surveys to identify golden eagle nests were completed on April 13 and May 24, 2010 and on February 22, April 12, and June 1, 2011 covering all suitable nesting habitat within 10 miles of the AEWP site (see Section 3.21). The nearest active nests are located 3.0 miles to the northwest, 3.8 miles to the north, and 6.8 miles to the north of the AEWP. Ten inactive golden eagle nests were identified within the 10-mile nest survey buffer and 3 additional inactive nests were identified just outside the 10-mile buffer. The closest of these inactive golden eagle nests is 1.2 miles to the northwest of the AEWP. Recent surveys for other projects in eastern Kern ~~the Tehachapi Wind Resource Area (TWRA)~~ have identified nesting and foraging golden eagles as well, and together these data suggest a moderate to high population density in the region. While golden eagles can forage over the entire AEWP site, suitable nesting habitat and known nesting locations occur in the rugged terrain to the north and west of the site, and observations of eagles during project surveys were concentrated in the north-central portions of the study area (West, 2011c).

Direct impacts to golden eagles during construction could include the loss of or disruption of foraging habitat and noise from construction activities and human disturbance. Construction of the AEWP would permanently remove roughly 94 acres of vegetation that could be used by golden eagles as foraging habitat. The AEWP's temporary impacts to 563 acres of vegetation would be considered a short-term impact because those areas would be revegetated following construction (Mitigation Measure 4.17-1, Habitat Restoration Program). Golden eagles commence nest building prior to most other birds, and disruption of nest building or the abandonment of existing nest sites could occur should eagles nest within one mile of construction activities in the project area. This species is sensitive to human encroachment and if nests are disturbed by humans, nest abandonment will typically occur (Thelander, 1974). However, construction of the AEWP would not result in direct impacts to known golden eagle nests because of the distance between nest sites and the AEWP.

Indirect impacts to golden eagles could include the loss of foraging habitat due to the establishment of invasive weeds potentially resulting in a decline in prey density. Night lighting during construction could also result in indirect impacts to golden eagles.

The project proponent is developing a *Conservation Plan for the Avoidance and Minimization of Potential Impacts to Golden Eagles* (Eagle Plan) for the AEWP, in consultation with BLM and USFWS. The Eagle Plan is currently in draft form and has not yet been finalized. The Draft Eagle Plan is included in Appendix D. The Eagle Plan outlines conservation measures to avoid and minimize impacts on golden eagles and to meet BLM and USFWS requirements regarding the Bald and Golden Eagle Protection Act.

The AEWP's direct and indirect construction-related impacts to golden eagles would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, and control of fugitive dust. Mitigation Measure 4.21-3 specifically addresses golden eagles and requires preconstruction nest surveys and a ¼-mile no-activity buffer around any active nests with a direct line of sight to the work area. If the work area is not within direct view of the nest, the no-disturbance buffer would be 660 feet, unless adjusted in consultation with CDFG and/or USFWS.

Swainson's Hawk

Swainson's hawk is a rare spring migrant and rare to uncommon autumnal migrant in the Antelope Valley and surrounding areas in Southern California. A few Swainson's hawk pairs also still nest in the Antelope Valley, are not known to nest at the project site.

Although Swainson's hawks were not identified during focused nesting surveys, one (1) individual was observed on site during fixed-point avian use surveys but was considered a migrant. Nonetheless, this species is known to nest in the general region, and could potentially nest and/or forage on the AEWP site or along the transmission line route.

Potential direct impacts to Swainson's hawks during construction would be the same as described for other avian species, including disruption of activities due to increased dust, noise, and human presence associated with construction activities; and the loss of habitat due to construction of WTGs, associated infrastructure, substations, and the construction and improvement of access roads. Potential indirect impacts include the loss of habitat due to the establishment of noxious weeds.

If Swainson's hawk breeds within the AEWP area, potential direct impacts include disruption of breeding and/or foraging activity due to increased dust, noise, and human presence associated with construction activities. Although Swainson's hawks have not been recorded nesting in AEWP site or within two (2) miles of the site and transmission line route, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, if breeding activities should occur. The CDFG recommends that buffer zones of a minimum of one-half (1/2) mile be placed around nest locations away from urban development to reduce these risks. These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist and CDFG. Pre-construction surveys would be required to determine the presence of Swainson's hawk in and near the project area prior to ground disturbance, and a disturbance-free buffer would be implemented around any active nests found (Mitigation Measure 4.21-3, Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds).

The AEWP's direct and indirect construction-related impacts to foraging Swainson's hawks would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, and control of fugitive dust.

Burrowing Owl

One (1) burrowing owl was observed within the AEWP area during 2009/2010 avian use studies. Protocol surveys for this species in 2010 were positive for burrowing owl sign, and two (2) active burrows were recorded during desert tortoise surveys in 2011. Eight suspected burrowing owl burrows, one with sign, were detected during 2011 protocol surveys but were determined to be inactive based on the results of the Phase III surveys. Because no birds were observed during protocol surveys, information regarding the number of territories that would be potentially impacted is not available.

Direct effects to burrowing owls from construction can include destruction of burrows/burrow entrances, mortality, and habitat loss surrounding occupied burrows, night lighting, and noise. "Occupied" is defined as a burrow that shows sign of burrowing owl occupancy (e.g., an owl, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance) within the last three (3) years (CDFG, 2012). Construction activities such as grading, the movement of construction vehicles or heavy equipment, and the installation of AEWP facility components may result in direct mortality through crushing of adults, young, or eggs

within burrows or entrapment of/injury to owls within burrows if burrow entrances become blocked. Construction would be conducted primarily during daylight hours; however, if it becomes necessary to conduct work at night, lighting would be needed for worker safety. Night lighting has the potential to disrupt burrowing owl breeding/nesting behavior if it would be placed in close proximity to occupied burrows. Any night lighting to be used during construction would be directed toward the interior of the disturbance area or at the specific location being constructed in order to minimize adverse effects to owls and other wildlife species, as required by Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization). Construction noise could also impact breeding behavior or reproductive success. Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) requires pre-construction surveys for burrowing owls and the establishment of a 250-foot disturbance-free (or otherwise appropriate) buffer around occupied burrows during the nesting season (160-foot buffer during the non-breeding season) to minimize or avoid impacts associated with construction disturbance.

In accordance with CDFG guidance (CDFG, 2012), avoidance is the preferred method for dealing with potential project impacts to burrowing owls. As described in the *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012), the current scientific literature supports the conclusion that mitigation for permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates, presence of fossorial mammal dens, well drained soils, and abundant and available prey within close proximity to the burrow. To offset the loss of foraging and burrow habitat on the AEWP site, Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) requires compensation through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat capable of supporting the species. The acquisition of occupied habitat off-site would be consistent with CDFG's *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012) and would be in an area where WTGs would not pose a mortality risk. If off-site acquisition and protection is pursued, the acquisition of occupied owl foraging habitat may overlap with the off-site mitigation required for vegetation communities (Mitigation Measure 4.17-1, Habitat Restoration Plan), if approved by the Lead Agencies and CDFG. To increase onsite workers' recognition of and commitment to burrowing owl protection, 4.21-2 (Wildlife Impact Avoidance and Minimization) includes education on burrowing owl identification, sensitivities, and protection measures as part of the WEAP. Furthermore, impacts to burrowing owl foraging habitat would be minimized through the implementation of Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization), which requires the minimization of temporary work areas to the smallest feasible size.

Potential indirect effects during construction include degradation of foraging habitat. The AEWP would indirectly affect burrowing owls if it resulted in the introduction or spread of invasive weed species that result in changes in prey abundance or species assemblages. Soil disturbance during construction can encourage invasive weeds to encroach into the habitat from areas outside the site and weed seed can be introduced to the site if construction vehicles and equipment entering the site is not cleaned properly. Invasive weed species have the potential to out-compete native species and change the overall quality of the habitat. Impacts associated with introduction or spread of invasive weed species would be mitigated by the implementation of Mitigation Measure 4.17-5 (Weed Control Plan), as described above.

Nesting Birds

The AEWP could result in direct and indirect impacts to nesting bird species protected under California Fish and Game Code sections 3503.5 and 3511 and the Migratory Bird Treaty Act. Construction activities, primarily though removal of vegetation, could cause destruction or abandonment of active nests or the mortality of adults, young, or eggs. Several special-status bird species are known or suspected to nest on or in close proximity to the AEWP, including burrowing owl, prairie falcon, loggerhead shrike, California horned lark, and Le Conte's thrasher. Impacts to burrowing owl nesting and the associated mitigation requirements are discussed in the Burrowing Owl section above. Direct and indirect construction-related impacts to nesting bird species, including special-status species, would be reduced through implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, minimization of construction night lighting, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, and control of fugitive dust. Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) also requires pre-construction surveys for nesting birds if construction, ground disturbance, and/or vegetation trimming/removal activities are scheduled to occur during the breeding season (February 1 to August 31). If nesting birds are encountered during preconstruction nesting surveys and/or sweeps, a 300-foot disturbance-free buffer shall be established around each nest, and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. Buffer sizes may be modified in consultation with the CDFG and/or the USFWS.

Wintering Birds

The AEWP could result in indirect impacts to wintering bird species protected under California Fish and Game Code sections 3503.5 and 3511 and the Migratory Bird Treaty Act. Construction activities could cause destruction of winter foraging and roosting habitat and temporary displacement of individuals due to noise and human activity during construction. Several special- status bird species have been documented during winter on the AEWP site, including golden eagle, loggerhead shrike, northern harrier peregrine falcon, and prairie falcon. No direct impact to wintering birds, in the form of take, is anticipated during construction. Indirect construction-related impacts to wintering bird species, including special-status species, would be reduced through implementation of Mitigation Measures 4.2-1 (Construction fugitive dust emission reduction), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.21-1 (Designated Biologist), and 4.21-2 (Wildlife Impact Avoidance and Minimization). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, minimization of construction night lighting, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, and control of fugitive dust.

Bats

No bat roosts are known to occur within or adjacent to the AEWP site; however, potential roosting habitat such as rock outcrops, large trees, and mine adits occur in and near the site and within the general region. If roosting bats should occur near the construction area, direct impacts could occur if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). No bat roosts or nursery colonies were detected during the 2011 bat roost assessment surveys. Potential impacts to bat roosts and nursery colonies would be reduced or avoided through implementation of Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), which requires surveys for bat nursery colonies and avoidance of colonies within 300 feet of construction activities, unless otherwise authorized by CDFG and the Lead Agencies.

Other potential direct effects to bats could include mortality of individuals during construction activities, permanent loss of habitat due to construction of permanent structures (e.g., new towers or access roads) or other construction activities (removal of roosting habitat at pulling and assembly sites), and temporary disturbance during construction (noise, air turbulence, dust, and ground vibrations from construction equipment). Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The construction and use of access roads could also disturb bats.

Potential indirect effects to bats include increased traffic in the site, dust, and human presence in the project area that could result in bats abandoning their roosts or maternal colonies, if present. For example, Townsend's big-eared bat is known to abandon young when disturbed.

The AEWP's direct and indirect construction-related impacts to special-status bats would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, vehicle speed limits of 15 miles per hour, and control of fugitive dust.

American Badger and Desert Kit Fox

Several American badger dens have been recorded on the AEWP site, and desert kit fox dens and sign were also detected (see Section 3.21). Construction of the AEWP has the potential to injure or kill American badgers and desert kit fox by crushing them in their dens or crushing den entrances with construction equipment, which would prevent animals from escaping, similar to the direct impacts described for burrowing owl above. The AEWP's direct and indirect construction-related impacts would be reduced or avoided by the implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and

Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, minimization of construction night lighting, vehicle speed limits of 15 miles per hour, and control of fugitive dust. Mitigation Measure 4.21-3 specifically addresses badgers and kit fox and requires preconstruction surveys and a 50-foot no-activity buffer around any occupied dens. Badger maternity dens would have a 200-foot disturbance-free buffer, and kit fox maternity dens would be avoided and a biological monitor would be present during construction.

Special-Status Mice

One San Joaquin pocket mouse was captured during diurnal trapping surveys at the AEWP site in 2011. Based on known geographic ranges, recent regional records, and the presence of potential habitat, it was determined that Tehachapi pocket mouse has a high potential to occur and yellow-eared pocket mouse, southern grasshopper mouse, and Tulare grasshopper mouse have a moderate potential to occur in the AEWP area.

Direct impacts to special-status mice, if present, could include mechanical crushing by vehicles and construction equipment, trampling, dust, and loss of habitat. Construction disturbance can also result in the flushing of small animals from refugia which increases the predation risk for small rodents. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. However, these impacts would not substantially reduce regional populations below self-sustaining levels or restrict the range of these species as habitat for these species is widespread in the region.

The AEWP's direct and indirect construction-related impacts to special-status mice would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, moving ground-dwelling special-status species such as special-status mice out of harm's way, worker environmental awareness training, minimization of construction night lighting, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, vehicle speed limits of 15 miles per hour, and control of fugitive dust.

Mohave Ground Squirrel

The AEWP site is within the western edge of the Mohave ground squirrel's range, and a few records exist within the general vicinity (see Section 3.21). The AEWP site and transmission line route support suitable habitat for this species. Trapping studies have been conducted for this species in 2006 (AEWP site), 2010 (adjacent project, near portions of the AEWP's transmission line), and 2011 (AEWP site), but were negative. Recent trapping studies conducted in nearby and

adjacent project areas such as the Alta-Oak Creek Mojave Project and Infills have also been negative for this species.

If present, direct effects to the Mohave ground squirrel related to construction could include crushing of burrows, mortality due to road kill, and loss of habitat. Potential indirect impacts include degradation of habitat due to the spread of nonnative an invasive weeds and dust.

Construction activities may result in take of individual Mohave ground squirrels within suitable habitat, if present. The greatest threat to the Mohave ground squirrel from the AEWP would be crushing of burrows during grading and other construction activities, if they occur. Individuals may also be hit by vehicles on access roads. The AEWP's direct and indirect construction-related impacts to Mohave ground squirrel would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, minimization of construction night lighting, restoration of temporarily impacted areas, compensation for permanently impacted habitat at a minimum 1:1 ratio, minimization of impact areas, vehicle speed limits of 15 miles per hour, and control of fugitive dust. Mitigation Measure 4.21-3 specifically addresses Mohave ground squirrel and requires preconstruction surveys. If Mohave ground squirrels are detected during any project surveys, the project proponent shall provide the County and the BLM with a map of all occupied habitat associated with the AEWP. The project proponent shall also consult with the CDFG regarding the potential for incidental take authorization. If a Mohave ground squirrel is found on the construction site, work shall be halted and redirected to areas not supporting this species unless an incidental take authorization from the CDFG directs otherwise.

Wildlife Movement and Migration Corridors

As described in Section 3.21, the AEWP is situated within the landscape linkage identified as the Tehachapi Connection, which is considered an important connection between the flora and fauna of the Sierra Nevada, San Emigdio Mountains, San Joaquin Valley, and the Mojave Desert. Ridgelines, canyon bottoms, and drainages within the region likely serve as movement corridors for a variety of terrestrial wildlife, including large animals such as mule deer, bear, mountain lion, bobcat, etc. However, wildlife are not expected to limit their movement to specific topographic features. For many species, including mule deer and small carnivores, movement patterns are expected to be more dispersed and include large swaths of open areas and vegetated trails.

Ground-disturbing activity, including WTG construction, grading of new access roads, construction of the substation and O&M facility, and transmission lines, and use or improvement of existing access roads could interfere with terrestrial wildlife movement during construction. Construction would affect wildlife in adjacent habitats by interfering with movement patterns or causing animals to temporarily avoid areas adjacent to the construction zone. In general, nocturnal (i.e., active at night) wildlife would be affected less by construction than diurnal (i.e., active during the day) species since construction would occur primarily during daylight hours.

More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during the land clearing and grading phases associated with WTG construction.

Construction activities may temporarily limit terrestrial wildlife movement at WTG and infrastructure locations; however, the broad geographic range and habitat that occurs in the area of the AEWP would remain available to wildlife. Mobile wildlife would be able to respond to construction activities by moving to adjacent habitats, and as many large species move during the evening or early morning when construction activities would be limited, construction would not substantially interfere with their movement.

Work areas may be fenced during construction, as needed. This fencing would be utilized to prevent wildlife or unauthorized persons from entering the work areas. This fencing would temporarily impede wildlife movement through the work area, but it would also prevent injury or mortality should wildlife approach work areas.

Impacts to wildlife movement and migration corridors would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above, these measures would require biological monitoring during construction activities, worker environmental awareness training, minimization of construction night lighting, minimization of impact areas, vehicle speed limits of 15 miles per hour, and control of fugitive dust. Temporary desert tortoise-proof fencing erected around work areas would preclude access by other wildlife species as well, especially smaller terrestrial species. However, the fencing would not be extensive in relation to the overall open nature of the project area, and would serve to avoid injury or mortality of wildlife that may otherwise enter the work area. Therefore, tortoise-proof construction fencing would not create an adverse impact on local wildlife movement.

Local Policies or Ordinances Protecting Biological Resources

The majority of the AEWP site is located on federal lands managed by the BLM, and as such, local policies and ordinances do not apply to these lands. However, 568 acres within the AEWP site and most of the transmission line route occur on private lands subject to local policies and ordinances. Within these areas, the Kern County General Plan (KCGP) and Zoning Ordinance is applicable. The KCGP contains general policies and implementation measures to provide for the conservation of biological resources. With the implementation of mitigation measures listed in Section 4.21.11, the AEWP would not conflict with provisions of the KCGP and Zoning Ordinance with regard to wildlife resources.

A portion of the northern and eastern section of the transmission line route traverses private property within the boundaries of the Mojave Specific Plan. The Mojave Specific Plan requires that biological surveys and evaluations be conducted in areas located outside of previously identified urbanized, nonsensitive areas. If rare, threatened, or endangered species are found during the surveys, the biologist will consult with the CDFG, the USFWS, or other agencies and jurisdictions with authority to implement and enforce requirements of the CESA and/or ESA, prior to ground disturbance. As described above and in Section 3.21 (Wildlife Resources), surveys and assessments conducted in the project area include general reconnaissance surveys, focused surveys for several special-status species, and avian and bat use studies. All AEWP-specific and reference survey reports are included in Appendix D. In addition, the project proponent would

conduct focused surveys for special-status wildlife prior to construction (Mitigation Measure 4.21-3, Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds). The project proponent would consult with CDFG and USFWS to obtain any necessary take authorization if take of listed species is anticipated ~~for potential impacts to listed species~~ through the context of a 2081 take permit from CDFG and/or a Biological Opinion from the USFWS. The BLM is currently consulting with the USFWS under Section 7 of the ESA to obtain a Biological Opinion.

With the implementation of mitigation measures, the AEWP would not conflict with any local policies or ordinances protecting biological resources.

Operation and Maintenance (O&M)

Invertebrates

Operational impacts to Kern shoulderband and whitefir shoulderband, if present, could include risk of mortality due to use of the project area by maintenance personnel. Although these species may be subject to direct and indirect impacts as a result of implementation of the AEWP, Kern shoulderband and whitefir shoulderband are expected to be widely distributed throughout Kern County in microhabitats that support suitable soil moisture, foliage, and cover. Impacts associated with the AEWP would be localized and are not likely to result in significant effects to viable populations of these species.

Desert Tortoise

As noted above, several individuals and numerous sign (burrows, scat, tracks, etc.) of desert tortoise were recorded during protocol surveys of the project site. Additionally, suitable habitat is abundant throughout the project area and along the transmission line route.

General O&M activities that would be conducted such as visual inspections, oil changes, and gearbox lubrication would result in regular truck traffic on access roads throughout the year, which may result in direct mortality or injury to individual desert tortoise. In addition, grading of access roads would occur as needed, but would be scheduled to minimize disturbance to desert tortoise in accordance with Mitigation Measure 4.21-3. During operations, noise, vibration, and lighting impacts would occur daily at much reduced levels compared to the construction phase. During maintenance, noise and vibration would increase for short periods and then return to ambient operational levels. These impacts could result in short- or long-term avoidance of the project area by tortoises.

As with construction, predators of the desert tortoise, most notably ravens, may be drawn to the AEWP due to the increase in food sources such as garbage cans and perching areas such as fences and transmission poles. A potential increase in ravens may indirectly affect desert tortoise during operations and maintenance. Potential impacts associated with an increase in ravens would be minimized through the development and implementation of a Raven Management Plan (Mitigation Measure 4.21-4).

As with construction, increases in invasive plant species in occupied desert tortoise habitat would be indirect impacts during operation and maintenance.

Direct and indirect impacts to desert tortoise resulting from operation and maintenance of the AEWP would be reduced through the implementation of Mitigation Measures 4.21-1

(Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above in Section 4.21.3, these measures would require worker environmental awareness training, a *Wildlife Mortality Reporting Program*, biological monitoring during any O&M activities conducted during the desert tortoise active period (March 15 to May 31 and September 1 to October 31) that may result in ground disturbance, vehicle speed limits of 15 miles per hour, raven management, and control of fugitive dust.

Coast Horned Lizard, Silvery Legless Lizard

As noted above, coast horned lizard was identified within the project area during surveys, and suitable habitat occurs primarily in the northern and central portions of the AEWP site. Silvery legless lizard was determined to have a moderate potential to occur.

Potential operational impacts to coast horned lizard and silvery legless lizard would be similar to those discussed above for desert tortoise, and would include direct impacts such as risk of mortality by vehicles and disturbance on access roads due to use by maintenance personnel and crushing of individuals during grading or vegetation removal, as well as indirect impacts as a result of noise, vibration, night lighting, introduction or spread of invasive weed species, and fugitive dust. Direct and indirect impacts to coast horned lizard and silvery legless lizard resulting from operation and maintenance of the AEWP would be reduced through the implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above in Section 4.21.3, these measures would require worker environmental awareness training, a *Wildlife Mortality Reporting Program*, vehicle speed limits of 15 miles per hour, and control of fugitive dust.

California Condor

As described above for construction, California condors are not currently known to use the project site for foraging, and no roosting or nesting habitat occurs on site. However, over the life of the AEWP it is possible that condors could occasionally wander through the site or even forage there during operational and maintenance activities.

If condors were to occur on site, direct impacts from operation and maintenance could include disturbance from human activity, collision with WTGs, and collision or electrocution with transmission lines. The risk of California condors colliding with the WTGs is discussed further in the Avian and Bat Collision Risk section below. Other potential direct impacts would be similar to those discussed above for construction and include the loss or disruption of foraging habitat from vegetation removal or grading, the introduction of hazardous microtrash that condors may attempt to eat, and exposure to toxic ethylene glycol antifreeze during maintenance activities.

Indirect effects could result from a disruption of normal foraging activity through the use of the new or improved access roads and subsequent increase in human activities. Degradation and alteration of habitat due to construction activities could preclude use by condors. These potential direct and indirect impacts to California condors during operation and maintenance of the AEWP

would be reduced through the implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-5 (California Condor), 4.17 5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). As described above in Section 4.21.3.2, these measures would require worker environmental awareness training, vehicle speed limits of 15 miles per hour, and control of fugitive dust. Mitigation Measure 4.21-5 (California Condor) requires bird flight diverters on all temporary meteorological tower guy wires constructed as part of the AEWP; all permanent meteorological towers shall be free-standing and not contain guy wires; and funding for conservation measures such as radio telemetry, condor feeding programs, or other such measures as deemed appropriate shall be provided to the California Condor Recovery Program. In addition, Mitigation Measure 4.21-5 requires a full-time monitor to be present on site during periods of livestock grazing to ensure immediate removal of livestock carcasses that could attract condors to the project site and increase the potential for WTG strikes (discussed below in Section 4.21.3.3). The project proponent would also be required to work together with the area grazing permittees to develop Best Management Practices to minimize attraction of condors to the project area, such as removing livestock carcasses to an off-site location far enough from wind developments so as not to present a risk to condors foraging on the carcasses and well as making all watering troughs inaccessible to wildlife (covered, empty, etc.) during periods when grazing is not occurring.

Golden Eagle

As with construction, O&M activities would not result in direct or indirect impacts to currently known golden eagle nest sites because the nearest active nest site is three (3) miles from the AEWP site. However, as noted above, the project site provides suitable foraging habitat for the golden eagle, and this species was observed foraging in the project area during fixed-point bird use surveys in all four seasons.

Direct impacts from operation and maintenance could include disturbance from human activity, collision with WTGs, and collision or electrocution with transmission lines. The risk of collision with the WTGs is discussed further in the Avian and Bat Collision Risk section below. O&M activities have the potential to remove foraging habitat if regrading of roads or other O&M activities result in vegetation being removed adjacent to the permanent project footprint. If areas need to be regraded, they would be revegetated in accordance with Mitigation Measure 4.17-1 (Habitat Restoration and Revegetation Plan).

Swainson's Hawk

As described above, one (1) individual was observed on site during fixed-point avian use surveys but was considered a migrant. Nonetheless, this species is known to nest in the general region, and could potentially nest and/or forage on the AEWP site or along the transmission line route.

Direct impacts from O&M activities could include disturbance from human activity, collision with WTGs, and collision or electrocution with transmission lines. The risk of collision with the WTGs is discussed further in the Avian and Bat Collision Risk section below.

O&M activities could potentially impact nesting Swainson's hawks if grading or vegetation removal were to occur in proximity to a nest. As described above, no Swainson's hawk nests are currently known in the AEWP area, but potential nesting habitat occurs in the project area and along the transmission line route. The majority of O&M activities such as driving on access

roads, inspecting WTGs and other infrastructure, and routine maintenance of WTGs is not expected to adversely affect nesting or foraging Swainson's hawks should they occur on site. As described above for golden eagle, O&M activities have the potential to remove Swainson's hawk foraging habitat if regrading of roads or other O&M activities result in vegetation being removed adjacent to the permanent project footprint. If areas need to be regraded, they would be revegetated in accordance with Mitigation Measure 4.17-1 (Habitat Restoration and Revegetation Plan). Therefore, O&M activities are not expected to impact Swainson's hawk foraging on the AEWP site.

Burrowing Owl

As described above, one burrowing owl and burrows with sign were observed within the project site during avian use studies and desert tortoise surveys. Burrowing owl burrows, some with sign, were detected during 2010 and 2011 protocol surveys (see Section 3.21). However, because no birds were observed during protocol surveys, information regarding the number of territories that would be potentially impacted is not available.

O&M activities have the potential to affect burrowing owls if activities cause destruction of burrows or burrow entrances. Regular O&M activities, such as driving on access roads to make periodic inspections of WTGs, gear box inspections, and lubrication, are not expected to affect burrowing owls because activities will remain on permanently maintained access roads, crane pads, and permanent work areas. Implementation of Mitigation Measures 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction)would reduce O&M impacts to burrowing owls from these types of activities. As described above in Section 4.21.3, these measures would require worker environmental awareness training, vehicle speed limits of 15 miles per hour, a *Wildlife Mortality Reporting Program*, and control of fugitive dust. Other O&M activities, such as vegetation management or regrading access roads that result in disturbance beyond the approved permanent footprint, have the potential to affect burrowing owls if activities cause destruction of burrows or burrow entrances, as described above for the construction phase of the AEWP. These potential impacts to burrowing owls during O&M would be mitigated by the requirement to conduct a pre-construction burrowing owl survey in accordance with Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) if O&M activities have the potential to disturb habitat outside of the approved permanent project footprint. Impacts associated with night lighting during O&M would be minimized through implementation of Mitigation Measures 4.18-1 and 4.18-4 (Minimize night lighting during construction and operation and maintenance). This measure includes specifications for facility lighting to minimize the illumination of adjacent areas. The risk of burrowing owls colliding with the WTGs is discussed in the Avian and Bat Collision Risk section below.

As with construction, increases in invasive plant species would be indirect impacts to burrowing owl. Impacts associated with invasive plant species during O&M would be minimized through implementation of Mitigation Measure 4.17-5 (Weed Control Plan) as described in Section 4.21.3.2.

Nesting Birds

As with construction, O&M activities could result in direct and indirect impacts to nesting bird species protected under the California Fish and Game Code and Migratory Bird Treaty Act. Direct impacts to nesting birds could occur as a result of vegetation management or regrading of access roads, which could cause destruction or abandonment of active nests or the mortality of adults, young, or eggs. Direct impacts to nesting bird species would be mitigated through implementation of Mitigation Measures 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) as described above in Section 4.21.3.2, and 4.21-6 (Avian and Bat Protection Plan) which requires the preparation of an *Avian and Bat Protection Plan (APP)* or equivalent document. To further reduce this potential impact, Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization) requires preparation of a WEAP, which includes actions and reporting procedures to be used if nesting birds are encountered. Impacts associated with night lighting during O&M would be minimized through implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) as described above.

As with construction, increases in invasive plant species would be indirect impacts to nesting bird species. Impacts associated with invasive plant species during O&M would be minimized through implementation of Mitigation Measure 4.17-5 (Weed Control Plan) as described in Section 4.21.3.2.

Wintering Birds

O&M activities could result in direct and indirect impacts to nesting bird species protected under the California Fish and Game Code and Migratory Bird Treaty Act. Indirect impacts to wintering birds could occur during vegetation management or regrading of access roads, which could cause temporary displacement of wintering birds from adjacent wintering habitats. Direct impacts to wintering birds may result from collision with project features. Indirect and direct impacts to wintering bird species would be mitigated through implementation of Mitigation Measures 4.21-6 (Avian and Bat Protection Plan) which requires the preparation of an Avian and Bat Protection Plan (APP) or equivalent document. To further reduce this potential impact, Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization) requires preparation of a WEAP, which includes actions and reporting procedures for impacts to wintering birds. Impacts associated with night lighting during O&M would be minimized through implementation of Mitigation Measures 4.18-1 (Reduction of Visual Contrast, Light, and Glare) and 4.18-4 (Comply with Lighting Standards) as described above.

As with construction, increases in invasive plant species would be indirect impacts to wintering bird species. Impacts associated with invasive plant species during O&M would be minimized through implementation of Mitigation Measure 4.17-5 (Weed Control Plan) as described in Section 4.21.3.2.

Bats

As described above for construction, no bat roosts are known to occur within or adjacent to the AEWP, but suitable roosting habitat occurs within and near the AEWP site. Impacts to bat roosts during O&M activities would only occur if grading or other ground disturbance were to occur in proximity to a roost. Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds**)** requires surveys for bat roosts prior to

any such disturbance. Nighttime foraging habitats could be directly affected by O&M of the AEWP site if vegetation management or regrading access roads result in disturbance beyond the approved permanent footprint of the AEWP. Mitigation Measure 4.17-1 (Habitat Restoration Plan) requires restoration or habitat compensation for temporary impacts to vegetation. A minimal amount of night lighting is included as part of the AEWP for the site, including at the O&M building and on top of some of the WTGs, which has the potential to attract and concentrate invertebrate prey items that could in turn attract bats to the project site and put them at risk for collision with WTGs or barotrauma. Collisions with WTGs and barotrauma are discussed in the Avian and Bat Collision Risk section below. Implementation of Mitigation Measures 4.18-1 and 4.18-4 (Minimize night lighting during construction and operation and maintenance) would reduce the potential for attraction of bats to the AEWP site because it requires night lighting to be minimized, shielded, and directed down. Even with implementation of Mitigation Measures 4.18-1 and 4.18-4 (Minimize night lighting during construction and operation and maintenance), bats may be still attracted to areas where night lighting is used due to the attraction of insect prey to the lights and this would increase their risk of collision with WTGs.

Avian and Bat Collision Risk

Operation of the AEWP would impact avian and bat species as a result of collisions with project features. Resident and migratory bird and bat species are at risk of collision with the 106 WTGs, two (2) permanent meteorological towers, and the overhead transmission lines. Special-status birds identified in the project area during surveys include golden eagle, Swainson's hawk, burrowing owl, Cooper's hawk, sharp-shinned hawk, northern harrier, prairie falcon, American peregrine falcon, osprey, Vaux's swift, California horned lark, loggerhead shrike, and Le Conte's thrasher. Of these, the golden eagle, Cooper's hawk, prairie falcon, California horned lark, loggerhead shrike, Conte's thrasher are year-round residents in the region. Burrowing owl and Swainson's hawk are known to breed in the region.

In accordance with Wind Turbine Guidelines Advisory Committee's (WTGAC's) recommendations to USFWS for wind projects in general, collision risk for the AEWP is defined as the likelihood that adverse impacts will occur to individuals or populations of species of concern as a result of wind energy development and operation (WTGAC, 2010). A weight-of-evidence approach is often used to analyze risk because relatively few methods are available for direct estimation of risk (WTGAC, 2010). The WTGAC also indicates that "for most populations, risk cannot easily be reduced to a strict metric, especially in the absence of population viability models for most species. Consequently, estimating the quantitative risk to populations is usually beyond the scope of project studies due to the difficulties in evaluating these metrics, and therefore risk assessment will be qualitative" (WTGAC, 2010). Use data for proposed wind sites is often compared to use data of other wind sites to evaluate collision risk. The collision risk analysis presented below incorporates the quantitative data collected during two (2) full years of avian point count studies and five (5) seasons of bat survey data on the AEWP site. Avian and bat use, observed flight heights, and species behaviors were incorporated into the qualitative collision risk assessment below.

The project proponent has been in ongoing discussions with the USFWS to demonstrate and determine the effectiveness of the Monitoring and Avoidance Plan. Field trials performed on July 9, 10, and 11, 2012, at Bitter Creek Wildlife Refuge where condors were present, indicated

that the system had a 100 percent success rate for detecting condors. The objective of the test was to evaluate the detection system against a human observer. In every case the VHF detection system recorded a condor occurrence before the human observer could detect it and in many cases, detected the occurrence of a condor that a human observe did not detect. Because almost all free flying condors are fitted with VHF transmitters, this system and its protocol will help ensure that condor mortality can be avoided.

The results and the Bitter Creek Wildlife Refuge suggest that the system will be 100 percent effective at the project site. The VHF detection system will be installed in early 2013, and prior to project construction, to monitor a large area in all directions from the AEWP to maximize response times should a condor be detected. By design, the detection system will monitor for and report condor(s) if they are within 16 miles of the AEWP.

Birds. Bird use by species was calculated as the mean number of birds per 30-minute survey. Among large birds, common raven had the highest use of any species during all four (4) seasons during the Year 1 study (2009/2010), and during spring, fall, and winter of Year 2 (2010/2011). California quail had the highest use in the summer during Year 2. A total of 43 individual raptors, representing six (6) unique species, were observed during Year 1 surveys, and 48 individual diurnal raptor observations, representing nine (9) unique species, were recorded during Year 2 surveys. Overall, red-tailed hawk and golden eagle were the most frequently observed diurnal raptors. Diurnal raptor use was highest during the winter and lowest during the summer for both years. Use by turkey vultures was recorded only during spring (0.40). Among the small birds, in both years use by passerines was higher in spring and winter, compared to fall and summer. No California condors were observed during fixed point surveys or at other times while biologists were onsite for other purposes or traveling between fixed-point survey locations (WEST, 2010c and 2011a).

In both years, flight height characteristics were estimated for both bird types and species. Overall, a mean of 31.9 percent (22.7 percent in Year 1 and 41.0 percent in Year 2) of flying large birds were observed within the rotor-swept height (RSH), which is the elevation range where birds would be susceptible to collision with turbine blades. The RSH is 115 to 427 feet (35 to 130 meters) above ground level. Of the flying large birds, a mean of 53.4 percent (57.6 percent in Year 1 and 49.1 percent in Year 2) were observed below the RSH and a mean of 14.8 percent (19.7 percent in Year 1 and 9.9 percent in Year 2) were above the RSH. The large bird types with the greatest percentage of observations within the RSH were vultures (both years), raptors (Year 1), and large corvids (Year 2). It should be noted that in Year 1, golden eagle was recorded flying in the RSH in 70.0 percent (70.0%) of observations, and in Year 2, in 87.5 percent (87.5%) of observations. In addition, In Year 1, one (1) sharp-shinned hawk was observed, and it was flying within the RSH, while one of the two (2) sharp-shinned hawks observed was also recorded within the RSH. One (1) observation each of Swainson's hawk, osprey, and Cooper's hawk were recorded during the Year 2 study, and each one was flying within the RSH. For diurnal raptors in general, a mean of 33.8 percent (23.1 percent in Year 1 and 44.4 percent in Year 2) were observed flying within the RSH, while a mean of 51.9 percent (53.8 percent in Year 1 and 50.0 percent in Year 2) were below the RSH and a mean of 14.4 percent (23.1 percent in Year 1 and 5.6 percent in Year 2) were flying above the RSH (WEST, 2010c and 2011a).

In Year 1, the majority of flying passerines (94.4 percent [94.4%]) were observed below the RSH, and the remaining 5.6 percent (5.6%) were observed flying within the RSH. In Year 2, 5.2

percent (5.2%) of small birds were observed flying within the estimated RSH. The majority (94.7 percent [94.7%]) of passerines, and all of the woodpeckers and swifts/hummingbirds were observed flying below the RSH. No small birds were recorded flying above the RSH (WEST, 2010c and 2011a).

The annual mean raptor use estimate (number of raptors divided by the number of plots and the total number of surveys) in the AEWP was compared to mean raptor use estimates from 42 other wind resource areas, located in the western and Midwestern U.S., that implemented similar protocols to the present study and had data for three or four different seasons. Based on fixed-point bird use data collected at the AEWP, the adjusted mean annual raptor use was 0.12 raptors/plot/20-minute survey, ranking third lowest compared to raptor use at these other wind resource areas (West, 2011b).

A relative exposure index was calculated for each bird species based on initial flight height observations and relative abundance. This index does not account for other possible collision risk factors (e.g., foraging or courtship behavior). Common raven had the highest exposure index of any large bird species (0.85). All other large bird species had an exposure index of 0.07 or less. The diurnal raptor species with the greatest exposure indices were red tailed hawk (0.03) and golden eagle (0.01). Prairie falcon, Swainson's hawk, and Cooper's hawk all had an index less than 0.01. Among the small birds, the only two species with an exposure index greater than zero were white crown sparrow (0.13) and sage sparrow (<0.01). Details regarding the calculation of the relative exposure index can be found in *Avian Baseline Studies at the Alta East Wind Resource Area Kern County, California Final Report, July 10, 2010 – June 1, 2011* (West, 2011b in Appendix D).

A regression analysis of raptor use and raptor collision mortality for 16 new-generation wind-energy facilities where similar methods were used to obtain raptor use estimates showed a significant (R^2 = 66.4%) correlation between raptor use and raptor collision mortality. Using this regression to predict raptor collision mortality the AEWP yields an estimated fatality rate of less than 0.01 fatalities/megawatt/ year, or approximately three (3) raptors per year for the AEWP. Based on species composition, of the most common raptor fatalities at other western wind-energy facilities, and species composition of raptors observed at the AEWP during the surveys, the majority of the fatalities of diurnal raptors would likely consist of red-tailed hawks. Based on the seasonal use estimates, it is expected that risk to raptors would be unequal across seasons, with higher risk during the winter and relatively low risk during other times of the year (West, 2011b).

Passerines (primarily perching birds) have been the most abundant bird fatality at wind energy facilities outside California, often comprising more than 80 percent (80%) of bird fatalities. Both migrant and resident passerine fatalities have been observed. Given that passerines made up a large proportion of the birds observed during the baseline study, passerines would be expected to make up the largest proportion of fatalities at the AEWP. Of the small birds observed during fixed-point surveys, exposure indices indicate that white-crowned sparrow is the most likely passerine species to be exposed to collision with WTGs at the AEWP. At the nearby Pine Tree Wind Farm, passerines comprised 58 percent (58%) of annual avian mortality, with western scrub-jay (*Aphelocoma californica*) and western meadowlark (*Sturnella neglecta*) the most common passerine fatalities encountered during the study (West, 2011b).

Of the large bird species observed at the AEWP, common raven had the highest exposure index. Despite the high use estimates and the high exposure index calculated for ravens, which comprised 18.1 percent (18.1%) of the individual large birds observed during surveys, post-construction fatality studies at other wind energy facilities in the western United States reveal relatively low mortality for common ravens, suggesting this species is not very susceptible to collisions. At three (3) existing wind energy facilities in the region for which data are available, ravens comprised zero to 6.3 percent (0-6.3%) of fatalities. Turkey vulture had the second highest exposure index (0.22) at the AEWP; however, they were only observed during spring. Post-construction avian fatality monitoring studies at facilities in California have documented very few vulture fatalities, and turkey vultures may be killed less often than what would be predicted based on abundance at older-generation wind-energy facilities. Out of 127 fatalities at the Tehachapi Pass Wind Resource Area and 439 fatalities at the Altamont Pass WRA (APWRA), there were no documented vulture fatalities. During a two-year study at the new-generation High Winds facility, only four (4) vultures were found among 301 total fatalities. While fatality data for new-generation wind energy facilities is limited, some data suggest that turkey vultures may show higher susceptibility to collision at the new-generation facilities than previously believed. During post-construction monitoring conducted at the Buffalo Gap Wind Farm in Texas, turkey vultures comprised 52 percent (52%) of total avian fatalities during two (2) years of monitoring (West, 2011b).

The AEWP area appears to receive very little use by waterfowl, waterbirds, or shorebirds (none were observed during surveys), and mortality involving these groups is expected to be inconsequential. The area does receive considerable use by upland game birds (mainly California quail and chukar), but these species are not expected to be highly susceptible to turbine collisions because they spend most of their time on the ground and were never observed flying at turbine rotor-swept heights during this study. However, based on the results of other post-construction monitoring in southern California, some mortality is expected. At the nearby Pine Tree Wind Farm and Alite facilities, upland game birds comprised 25 percent (25%) and 29 percent (29%) of overall avian mortality, respectively (West, 2011b).

With the exception of ravens and turkey vultures, all non-raptors had relatively low exposure indices due to low use estimates and/or the majority of individuals flying below the RSH. It is unlikely that non-raptor populations would be adversely affected by direct mortality from the operation of the wind-energy facility.

Based on studies conducted at newer wind energy facilities, overall bird mortality in California is moderate compared to other sites in the Pacific Northwest and throughout North America. However, the Altamont Pass Wind Resource Area (APWRA), located in west-central California, had the highest mortality rate among facilities in California and the Pacific Northwest, with a rate of 9.57 birds/MW/year. The APWRA currently contains over 5,000 WTGs, with a total capacity of 550 MW. The APWRA uses older, smaller WTGs that typically range in size from 40 kilowatts (kW) to 300 kW, while most recent wind-energy facilities use larger turbines, ranging in size from 600 kW to 2.5 MW. The higher mortality rates observed at the APWRA have not been observed at other old-generation wind farms in California, namely the Tehachapi Pass and San Gorgonio Wind Resource Areas. A relatively high mortality rate was also observed at the Pine Tree Wind Farm located about ten miles north of the AEWP (estimated fatality rate of 11.8 birds/MW/year), during 12 consecutive months of fatality monitoring in 2009-2010. The Dillon facility in Riverside County and the Diablo Winds facility in Alameda County had more

moderate fatality estimates (4.71 and 4.28 birds/MW/year, respectively). Two (2) years of study were conducted at the High Winds facility, with a fatality estimate of 1.62 birds/MW/year in 2004 and 1.10 birds/MW/year in 2005. The Alite facility, located several miles to the southwest of the AEWP, recorded the lowest mortality rate of sites reviewed in California, with an estimate of 0.55 birds/MW/year (West, 2011b).

It should be noted that avian mortality studies are not often conducted in a manner that allows direct comparison between facilities. For example, the frequency of searches, number of WTGs in the search area, and terrain are just some of the variables that can differ between studies at various facilities.

Results from both years of fixed-point avian use surveys at the AEWP were generally consistent with both years of surveys indicating low use of the area by raptors and a low density of nesting raptors. The Year 2 study found use of the AEWP by golden eagles during late fall and winter, which was not detected during the Year 1 surveys. Although multiple raptor species would potentially be at risk of collision mortality during operation of the AEWP, the frequency with which they were documented using the site during two (2) years of study suggests that fatality rates would be low and unlikely to result in population declines (West, 2011b).

The use of the area by golden eagles and the proximity to golden eagle nests in the surrounding landscape warrant consideration. To date, a total of approximately ten (10) golden eagle carcasses have been reported in the vicinity of wind turbines located within Kern County; seven of which occurred at the PTWF which is approved and operated by the Los Angeles Department of Water and Power. The PTWF project is located roughly ten miles north of the AEWP. The initial year of baseline surveys for the AEWP documented 11 golden eagle observations (one in spring, one in summer, three in fall, and six in winter). All observations were to the north and west of the current AEWP boundary; however, the Year 2 study documented golden eagle use within the boundary, concentrated in the north-central portions of the study area. These golden eagle observations were limited to the fall (one observation) and winter (seven observations). Despite several active golden eagle nests identified to the north of the AEWP, use of the study area by golden eagles was not observed during the breeding season (West, 2011b). However, based on the mortality data from the nearby projects and the documented use of the AEWP site by golden eagles, risk of mortality for this species from collision with WTGs would be high.

A California condor risk assessment was developed for the North Sky River Wind Energy Project, 12 miles north of the AEWP area, to outline the potential risk to California condors associated with developing a wind energy facility at that location. This risk assessment included a review of California condor life history, ecology, and behavior; used a resource selection probability function (RSPF) analysis to evaluate habitat use of California condors in relation to available habitat in the North Sky River Wind Energy Project area; reviewed relevant information on wind energy development impacts to related species of vultures; and provided a qualitative assessment of the potential for California condor impacts at that project (Johnson and Howlin, 2011). Due to the proximity of the North Sky Wind Energy Project to the AEWP site, the findings of the California condor risk assessment developed for the North Sky River Wind Energy Project were utilized as a resource to analyze this potential impact of the AEWP. The risk assessment concluded that, based on a review of the relevant literature, it is apparent that physical characteristics (e.g., high wing loading) and behavior (e.g., attraction to novel objects) would put California condors at risk of colliding with turbines in a wind development. Also, data on flight heights indicate condors can spend considerable time flying at heights within the potential rotor-

swept heights of modern WTGs. Furthermore, other related species, such as Griffon, Egyptian, and turkey vultures, have been documented to collide with commercial WTGs. Based on this information, a wind energy facility built where California condors commonly occur would likely be at risk for lethal take of this species (Johnson and Howlin, 2011).

California condors are communal feeders, and large numbers of individuals will gather at a single carcass during feeding events. Because of this, there is concern among biologists and regulatory agencies that multiple individuals could be killed at a single feeding event, should the carcass be located in proximity to an operating WTG. The wild population in southern California is small (currently 47 birds), and more than half of this population could attend a single feeding event on a large carcass such as deer or livestock. In addition, condors are highly social and experienced wild birds are invaluable in teaching newly fledged young and recently released birds how to survive. The loss of one (1) or more experienced individuals would have detrimental effects on population sustainability, not just in the loss of reproductive birds, but for the remaining naïve birds that would have learned foraging strategies, etc. from them. For these reasons, even the loss of a single California condor would be substantial.

Despite the proximity of areas of high condor use (Tejon Ranch) to operating wind developments, to date no condors have been reported colliding with WTGs. However, this remains a potential impact for any birds that enter a wind energy facility, including the AEWP. Condors could be especially vulnerable to collision with WTGs if grazing were to occur on the site during operation as birds could be attracted to the site by the presence of dead livestock. The AEWP site is within the historic condor range and recent data suggests that there is range expansion in the general direction of the project area. The possibility of a California condor collision fatality at the AEWP site cannot be ruled out. Development of a wind resource facility at this location is considered to pose a high risk of collision to this species.

Potential collision risk impacts to birds, including condors, would be minimized though implementation of Mitigation Measures 4.21-6 (Avian and Bat Protection Plan), 4.21-7 (Eagle Conservation Plan), 4.21-8 (Lighting Specifications to Minimize Bird and Bat Collisions), 4.21-9 (Minimize Avian and Bat Turbine Strikes), 4.21-10 (Post-Construction Breeding Monitoring), 4.21-11 (Post-Construction Avian and Bat Mortality Monitoring), 4.21-12 (Supplemental Measures for Unanticipated Significant Impacts), and 4.21-14 (Post-Construction Condor Monitoring). These measures are summarized below:

- Mitigation Measure 4.21-6 (Avian and Bat Protection Plan) requires the project proponent to submit a current copy of their *Avian and Bat Protection Plan* or equivalent document to the County and the BLM prior to the issuance of building permits. The project proponent is developing an *Avian Protection Plan for the Avoidance and Minimization of Potential Impacts to Avian Species* (APP) for the AEWP, in consultation with USFWS. The APP is currently in draft form and has not yet been finalized. The draft APP is included in Appendix D. The APP outlines conservation measures to avoid and minimize impacts to birds during operation of the AEWP.
- Mitigation Measure 4.21-7 (Eagle Conservation Plan) requires the project proponent to develop and implement an *Eagle Conservation Plan* or equivalent document to address project impacts to golden eagles. The project proponent is currently developing a *Conservation Plan for the Avoidance and Minimization of Potential Impacts to Golden Eagles* (Eagle Plan) for the AEWP, in consultation with BLM and USFWS. The Eagle Plan is currently in draft form

and has not yet been finalized. The Draft Eagle Plan is included in Appendix D. The Eagle Plan outlines conservation measures to avoid and minimize impacts on golden eagles and to meet BLM and USFWS requirements regarding the Bald and Golden Eagle Protection Act.

- Mitigation Measure 4.21-8 (Lighting Specifications to Minimize Bird and Bat Collisions) requires the project proponent to coordinate with the Federal Aviation Administration (FAA) to minimize the number of WTGs and meteorological towers that require night lighting and to use lighting that would minimize attraction of birds and bats to the project area.
- Mitigation Measure 4.21-9 (Minimize Avian and Bat Turbine Strikes) specifies design features and management methods that would minimize the potential to attract raptors or otherwise increase risk to raptors in the project area, such as design features to minimize the abundance of prey, the siting of WTGs away from the upwind sides of ridge crests, and the prohibition of the use of poisoning for rodent control. The project proponent will also provide a plan to the BLM, Kern County, CDFG, and USFWS for review and approval for implementing either full-time human observation, during daylight hours, or a Condor Monitoring System that will detect tracked condors in order to identify any condors near the project. Once detected, turbines in the vicinity of the condor would be immediately shut down to minimize risk to the individual(s).
- Mitigation Measure 4.21-10 (Post-Construction Breeding Monitoring) requires monitoring during the first three (3) years of operation of the AEWP to demonstrate whether sensitive resident birds are compatible with operation of wind turbine generators, and to show that the level of incidental injury and mortality does not result in a long-term decline in sensitive resident bird species in the region.
- Mitigation Measure 4.21-11 (Post-Construction Avian and Bat Mortality Monitoring) requires monitoring during the first three (3) years of operation of the AEWP to demonstrate the level of incidental injury and mortality to populations of avian or bat species in the vicinity of the project site. In addition to mortality monitoring, starting in year one (1) of AEWP operation and continuing for the life of the AEWP, annual Post-Construction Mortality Monitoring for golden eagle shall be conducted by the project proponent, in conjunction with other monitoring.
- Mitigation Measure 4.21-12 (Supplemental Measures for Unanticipated Significant Impacts) requires supplemental measures to be implemented if the Post-Construction Avian and Bat Mortality Monitoring demonstrates that the AEWP is resulting in unanticipated significant adverse impacts on the population of an avian or bat species or is significantly interfering with any migratory corridor. Supplemental measures would be determined in consultation with the Lead Agencies and the Resource Agencies and could include additional migration count surveys, provision of additional nesting structures or platforms, contribution to research that addresses the sources of mortality and population impacts on the species of concern, and funding of regional conservation measures with the intent of enhancing and preserving existing foraging and nesting habitat in an amount not to exceed the value of acreage representing the AEWP's rotor swept area based on installed turbines.
- Mitigation Measure 4.21-14 (Post-Construction Condor Monitoring) details reporting requirements for the condor monitoring described in MM 4.21-9, and provides measures to be implemented in the event of take of condors (including harassment or harm). These measures include notification of BLM, USFWS, and Kern County; curtailment of daytime turbine

operations for two weeks; continuous daylight observations for condors during the curtailment period; and consultation with BLM, CDFG, and USFWS to determine if extended curtailment beyond the two-week period should be implemented. In the event of a condor mortality, the project proponent would be required to immediately cease all turbine operations; notify BLM, Kern County, CDFG, and USFWS; submit to the agencies a plan for developing and implementing additional specific condor avoidance and minimization measures; and reinitiate formal consultation under the Endangered Species Act.

The applicant has been in on-going discussions with the USFWS to demonstrate and determine the effectiveness of the Monitoring and Avoidance Plan for California Condor. Field trials performed on July 9, 10, and 11, 2012, at Bitter Creek Wildlife Refuge where condors were present, indicated that the system had a 100 percent success rate for detecting condors. The objective of the test was to evaluate the detection system against a human observer. In every case the VHF detection system recorded a condor occurrence before the human observer could detect it and in many cases, detected the occurrence of a condor that a human observe did not detect. Because almost all free flying condors are fitted with VHF transmitters, detection of a condor by the system is highly dependable. This system and its protocol will ensure that condor mortality can be avoided.

The results at the Bitter Creek Wildlife Refuge suggest that the system will be 100 percent effective at the project site, as well. Nonetheless, another demonstration of the VHF detection system for the County and FWS occurred October 3 and 4, 2012 at the project site. The VHF detection system will be installed in early 2013 to monitor a large area in all directions from the AEWP to maximize response times should a condor be detected. By design, the detection system will monitor for and report a condor before it can reach the AEWP and as such, it will most often detect a condor that is not headed toward nor threatened by the AEWP but rather traveling to other locations in the surrounding mountainous areas that could be occupied by other, unrelated, facilities that could pose a threat to condors.

Bats. Estimates of bat fatalities at wind energy developments are less certain than estimates for avian fatalities, as most studies have focused on bird mortality, but available data suggest bat fatalities range from 0.8 to nearly 40 bats/MW/year (Kunz, et al., 2007; NWCC, 2010). It is estimated that more bats than birds are killed at wind developments (Baerwald, et al., 2008). The cause of death for bats is often barotrauma, which is caused by a rapid drop in air pressure near moving turbine blades (Baerwald et al., 2008). Bats are unable to detect these low-pressure areas, and when they enter the area the low pressure causes severe lung damage that results in mortality. In a study investigating barotraumas in bats at a wind development in Canada, 91 percent (91%) of recovered bats showed signs of barotrauma (Baerwald, et al., 2008).

To date, relatively few studies of wind energy facilities have recorded both bat passes per night and bat fatality rates (West, 2011c). Those that have generally show correlation between bat activity levels and estimated fatality rates, and the expectation amongst the scientific and resource-management communities is that an association may exist between pre-construction activity and post-construction fatalities. Bat activity recorded at the AEWP during the study period of December 13, 2010 to April 11, 2011 (0.41 ± 0.31 bat passes per detector-night) is relatively very low, and is consistent with bat activity recorded during the previous full year of study at the AEWP (0.22 ± 0.03 bat passes per detector-night). Based on reported fatality rates at wind energy facilities in California and the Pacific Northwest regions of the United States, the bat activity observed at the AEWP during nearly two (2) years of study, and habitats within the

AEWP, it is expected that the potential risk to bats from turbine operations would be lower than or similar to the rates observed at other western facilities, and not nearly as high as the rates observed at eastern ridgeline facilities (see Table 3 of West, 2011c in Appendix D). As well, very few bat mortalities have been found during post-construction fatality surveys at existing wind energy facilities in the immediate vicinity, further suggesting that fatality rates at the AEWP would be relatively low (West, 2011c; 2012).

As described in WEST, 2012, currently available data from post-construction monitoring studies of wind energy facilities suggest that:

1. Bat activity is roughly correlated with bat fatalities;
2. The majority of fatalities occur during the post-breeding or fall migration season (August and September);
3. Migratory tree-roosting species (e.g., western red, hoary, and silver-haired bats) compose approximately 75% of reported bats killed; and
4. The level of bat fatalities depends on many variables, including local environmental characteristics and specific weather conditions, but no single predictive factor has yet been identified. However, some of the highest reported bat fatality rates recorded to date have occurred at wind energy facilities located along forested ridge tops in the eastern and northeastern US and at some wind energy facilities in agricultural regions of the Midwest.

Bat activity recorded at the AEWP during the study period of December 13, 2010 to November 1, 2011 (0.23 ± 0.13 bat passes per detector-night) is relatively very low, and is consistent with bat activity recorded during the previous full year of study at the AEWP (0.22 ± 0.03 bat passes per detector-night). Based on reported fatality rates at wind energy facilities in California and the Pacific Northwest regions of the United States, the bat activity observed at the AEWP during nearly two (2) years of study, and habitats within the AEWP, it is expected that the potential risk to bats from turbine operations would be lower than or similar to the rates observed at other western facilities, and not nearly as high as the rates observed at eastern ridgeline facilities (see Table 3 of West, 2011c in Appendix D). As well, very few bat mortalities have been found during post-construction fatality surveys at existing wind energy facilities in the immediate vicinity, further suggesting that fatality rates at the AEWP would be relatively low (West, 2011c; 2012).

Potential collision risk impacts to bat species would be minimized though implementation of Mitigation Measures described above for avian impacts: 4.21-6 (Avian and Bat Protection Plan), 4.21-7 (Eagle Conservation Plan), 4.21-8 (Lighting Specifications to Minimize Bird and Bat Collisions), 4.21-9 (Minimize Avian and Bat Turbine Strikes), 4.21-10 (Post-Construction Breeding Monitoring), 4.21-11 (Post-Construction Avian and Bat Mortality Monitoring), and 4.21-12 (Supplemental Measures for Unanticipated Significant Impacts). The draft APP developed for the AEWP does not address potential bat impacts or conservation measures specific to bats because bat detection rates in baseline studies were low and bat fatality rates in the region are low.

Avian Electrocution Risk

Overhead transmission lines also pose an electrocution risk for avian species, particularly for large, aerial perching birds, such as hawks and eagles, because of their large size, distribution,

and behavior (APLIC, 2006). Because raptors and other large aerial perching birds often perch on tall structures that offer views of potential prey, the design of transmission poles or towers appears to be a major factor in raptor electrocution (APLIC, 2006). Electrocution occurs when a perching bird simultaneously contacts two energized phase conductors or an energized conductor and grounded hardware. Electrocution can occur when horizontal separation is less than the wrist-to-wrist (flesh-to-flesh) distance of a bird's wingspan or where vertical separation is less than a bird's length from head-to-foot (APLIC, 2006). Electrocution can also occur when birds perched side-by-side span the distance between these elements (APLIC, 2006). Current guidelines for constructing power lines have been developed to minimize the potential effects from bird strikes and electrocution. To reduce the effects associated with bird strikes and electrocution resulting from implementation of the AEWP, power collection and transmission facilities will be designed to be raptor-safe in accordance with the *Suggested Practices for ~~Raptor~~ Avian Protection on Power Lines: The State of the Art in 2006* and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*. Potential impacts associated with electrocution would be minimized through implementation of Mitigation Measure 4.21-13 (Avian Power Line Interaction Committee Standards).

Displacement of Special-Status Avian and Bat Species

The amount of habitat permanently disturbed by the AEWP is relatively small, but the area impacted by moving rotors extends beyond the area of ground disturbance and could potentially disturb or displace nesting and foraging birds and bats, which could affect their survivorship. The project area supports potential nesting and foraging habitat for numerous avian species, and some special-status birds were documented during fixed-point bird use studies and other surveys at the AEWP. In addition, numerous rock outcrops, large trees, and mine adits (entrances) occur in the project area and surrounding lands that provide potential roosting habitat for bats. Based on data from other projects in the vicinity, it is assumed that some level of displacement of birds and bats would occur.

Raptors. Several raptor species have been observed in the AEWP site, including golden eagle, Swainson's hawk, burrowing owl, Cooper's hawk, sharp-shinned hawk, northern harrier, prairie falcon, American peregrine falcon, and osprey. Birds displaced from wind-energy facilities might move to areas with fewer disturbances, but lower quality habitat, with an overall effect of reducing breeding success. Most studies on raptor displacement at wind-energy facilities; however, indicate effects to be negligible (Johnson et al., 2002, 2003; Madders and Whitfield, 2006). Notable exceptions to this include a 2005 study that described territorial golden eagles avoiding the entire wind-energy facility area, except when intercepting non-territorial birds (Walker et al., 2005). A study at the Buffalo Ridge wind-energy facility in Minnesota found evidence of northern harriers avoiding WTGs on both a small scale (< 328 feet [100 meters] from WTGs) and a larger scale in the year following construction (Johnson et al., 2002). Two (2) years after construction; however, no large-scale displacement of northern harriers was detected.

Some studies have been published that suggest avoidance of WTGs by nesting raptors. One (1) study occurred at Buffalo Ridge, Minnesota, where raptor nest density on 101 square miles of land surrounding a wind project was one (1) nest per 1.65 square miles, yet no nests were present in the 12 square miles wind-energy facility itself, even though habitat was similar (Usgaard et al., 1997). Another study conducted at the Altamont Pass Wind Resource Area (APWRA) radio-tracked various age classes of golden eagles, including breeding individuals. The surveys showed

that breeding eagles rarely entered the APWRA, whereas nonterritorial eagles tended to move about freely throughout the study area, often visiting the APWRA (Hunt et al., 1999). However, at a wind energy facility in eastern Washington, based on extensive monitoring using helicopter flights and ground observations, raptors still nested in the area at the same levels after construction, and several nests were located within 0.5 mile of WTGs (Erickson et al., 2004). At the Foote Creek Rim Wind-Energy Facility in southern Wyoming, one (1) pair of red-tailed hawks nested within 0.3 mile of the WTG strings, and seven (7) red-tailed hawk, one (1) great horned owl, and one (1) golden eagle nests located within one (1) mile of the wind farm successfully fledged young (Johnson et al., 2000). The golden eagle pair successfully nested 0.5 mile from the wind farm for three (3) different years after it became operational. A Swainson's hawk also nested within 0.25 mile (0.8 kilometers) of a WTG string at the Klondike I wind-energy facility in Oregon after the facility was operational (Johnson et al., 2003). Although these observations suggest that there would be limited nesting displacement of some raptors in the AEWP area, others such as golden eagles may be displaced from much of the site. Displaced raptors would potentially be forced into lower-quality habitats in the region, or would be subject to high levels of competition from birds already established in areas that they are displaced into. However, raptors that avoid the project area would be at a lower risk for direct mortality through collision with WTGs and/or collision and electrocution on AEWP power lines.

Non-Raptors. Studies concerning displacement of non-raptor species have concentrated on grassland passerines (Larsen and Madsen, 2000; Mabey and Paul, 2007). Wind-energy facility construction appears to cause small-scale local displacement of grassland passerines and is likely due to the birds avoiding WTG noise and maintenance activities. Construction also reduces habitat suitability because of the presence of access roads and large gravel pads surrounding WTGs (Johnson et al., 2000; Leddy, 1996). Leddy et al. (1999) surveyed bird densities in Conservation Reserve Program grasslands at the Buffalo Ridge wind-energy facility in Minnesota, and found mean densities of 10 grassland bird species were four times higher at areas located 180 meters (591 feet) from WTGs than they were at grasslands nearer WTGs. Johnson et al. (2000) found reduced use of habitat by 7 of 22 grassland-breeding birds following construction of the Buffalo Ridge wind energy facility in Minnesota. Results from the Stateline wind-energy facility in Oregon and Washington (Erickson et al., 2004), and the Combine Hills wind-energy facility in Oregon (Young et al., 2005), suggest a relatively small impact of the wind-energy facilities on grassland-nesting passerines. Transect surveys conducted prior to and after construction of the wind-energy facilities found that grassland passerine use was significantly reduced within 50 meters (164 feet) of WTG strings, but areas further away from WTG strings did not have reduced bird use.

All studies have shown that there is some displacement of passerine birds at wind energy facilities. However, it is generally low and is not expected to be a substantial impact for the AEWP. The region surrounding the AEWP, especially in the Tehachapi Mountain foothills to the north, is largely undeveloped and would provide alternative habitat for displaced individuals. Because passerine use in the region has not been documented to be extremely high, these displaced individuals would not be expected to exceed the carrying capacity of nearby suitable habitats. The project area and adjacent lands likely support a larger number of passerines during the spring and fall migration periods. However, migrants passing through the region would be expected to concentrate within offsite areas containing riparian habitat and access to water more than the project area. Even with migrant use of the area, passerine displacement is not expected to be substantial.

Indirect impacts associated with avian displacement from the AEWP site would be mitigated by implementation of an Avian and Bat Protection Plan (Mitigation Measure 4.21-6), restoration of temporary impacts to habitats on site (Mitigation Measure 4.17-1), pre-construction nesting surveys and establishing buffers around occupied nests (Mitigation Measure 4.21-3), and post-construction breeding monitoring (Mitigation Measure 4.21-10). These measures are described above.

American Badger and Desert Kit Fox

As described above, several American badger dens have been recorded on the project site, and desert kit fox dens and sign were also detected. As described for burrowing owl, operation and maintenance activities, such as vegetation management or regrading access roads that result in disturbance beyond the approved permanent footprint, have the potential to injure or kill American badgers and desert kit fox by crushing them in their dens or crushing den entrances with O&M equipment, which would prevent animals from escaping. These potential impacts to American badgers and desert kit fox during O&M would be mitigated by the requirement to conduct pre-construction surveys for these species in accordance with Mitigation Measure 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds**)** if O&M activities have the potential to disturb habitat outside of the approved permanent project footprint. To further reduce this potential impact, Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization) requires preparation of a WEAP, which includes actions and reporting procedures to be used if American badger and/or desert kit fox are encountered.

Special-Status Mice

As described above, San Joaquin pocket mouse is present on site and there is a potential for additional special-status mice to occur at the project site. Operation and maintenance activities would primarily include direct impacts to special-status mice associated with risk of road kill on access roads by maintenance personnel, and indirect impacts associated with the spread of nonnative and invasive weeds and disturbance due to increased human presence. These potential impacts to special-status mice during O&M would be mitigated by the requirement to maintain vehicle speed limits of 15 miles per hour in accordance with Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization) and implementation of weed control measures in accordance with Mitigation Measure 4.17-5 (Weed Control Plan), as described in Section 4.21.3.2.

Mohave Ground Squirrel

As described above, the project site is within the western edge of the Mohave ground squirrel's range, and a few records exist within the general vicinity (see Section 3.21). Trapping studies conducted on site and at nearby projects in recent years have all been negative. As described above for special-status mice, potential operational impacts to Mohave ground squirrel, if present, could include direct impacts associated with increased risk of road kill and indirect impacts associated with the spread of nonnative and invasive weeds and disturbance due to increased human presence. These potential impacts to Mohave ground squirrel during O&M would be mitigated by the requirement to maintain vehicle speed limits of 15 miles per hour in accordance with Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization) and implementation of weed control measures in accordance with Mitigation Measure 4.17-5 (Weed Control Plan), as described in Section 4.21.3.2.

Wildlife Movement and Migration Corridors

Upon completion of construction, permanent fencing would be installed around individual portions of the AEWP site, as required by Kern County standards which allow either fencing the exterior boundary of the entire AEWP property or fencing each wind turbine cluster or row independently. At this time, the choice of fencing options has not been determined. Fencing of the AEWP would have the potential to impede wildlife movement in the region. If the entire project perimeter were to be fenced, the AEWP would present a much larger barrier to movement for wildlife species. Fencing individual turbines or strings/clusters of turbines would greatly reduce the AEWP's interference with wildlife movement because it would allow more passages through the overall project area, and wildlife movement would not be disrupted in the area to the extent that it would if the entire site was fenced.

Regardless of the configuration of fencing ultimately used, this fencing would likely permanently preclude access by some larger terrestrial wildlife, but small animals would be able to pass under the fence as the bottom strand of smooth barbed wire would be a minimum of 18 inches above the ground in accordance with Mitigation Measure 4.21-2 (Wildlife Impact Avoidance and Minimization). This would minimize habitat fragmentation for small animals and some larger ones, as many species would still be able to pass under or over the fence. In addition, the project site is not in an area that, either by topography or by habitat, would be expected to "funnel" terrestrial wildlife movement into a defined corridor. Surveys of the project site over several years have not detected large amounts of sign from terrestrial wildlife that would indicate that the area is used extensively for movement or migration. Therefore, the AEWP is not expected to substantially interfere with wildlife movement during operation and maintenance.

The construction of new WTGs and the installation of new above-ground transmission lines could interfere with aerial migratory movements of some birds or bats. Data from the AEWP site and other nearby wind developments suggest a more diffuse pattern of avian migration in the region, and no focused bird or bat migratory corridors have been identified in the vicinity of the AEWP. No surface water or riparian vegetation that may support higher levels of use by migrating birds and bats occur on or near the site. Therefore, operation of the AEWP is not expected to substantially interfere with any bird or bat migratory corridor. Implementation of Mitigation Measure 4.21-6 (Avian and Bat Protection Plan) would minimize impacts to migratory birds and bats in the AEWP area.

Local Policies or Ordinances Protecting Biological Resources

Operation and maintenance activities of the AEWP would not conflict with any local policies or ordinances protecting biological resources.

Decommissioning

Decommissioning and reclamation activities associated with the AEWP would result in direct temporary and permanent losses of wildlife species habitats and indirect effects on habitats and species. These activities would include such tasks as vegetation removal, grading, and surface disturbance to remove the WTGs, above-ground electrical components, and substation components, as well as to remove below-ground infrastructure to a depth of three (3) feet. They also include surface disturbance to remove roads and to restore vegetation. It is expected that the impacts during decommissioning would be similar to those of construction of the AEWP.

All mitigation measures that are required during construction of the AEWP to avoid or minimize impacts to wildlife resources would also be required during decommissioning and reclamation activities (see Section 4.21.11).

4.21.3.2 CEQA Significance and Impact Determinations, Alternative A: Project

Significance conclusions for the impacts identified for each phase of the AEWP (Construction, Operation and Maintenance, Decommissioning) are presented below based on the CEQA Significance Criteria presented in Section 4.21.2. Only those significance criteria which were determined in Section 4.21.2 to be relevant to the AEWP are addressed below. Table 4.21-1 provides a summary of the significance determinations for vegetation resources for Alternative A.

Table 4.21-1. Summary of CEQA Significance Determinations

Species/Category	Known Presence on Site	Construction Impacts	O&M Impacts	Decommissioning Impacts[1]	Cumulative Impacts
Invertebrates	No	LTS	LTS	LTS	LTS
Desert Tortoise	Yes	LTS	LTS	LTS	LTS
Coast Horned Lizard	Yes	LTS	LTS	LTS	LTS
Silvery Legless Lizard	No	LTS	LTS	LTS	LTS
California Condor	No	LTS	SU	LTS	SU
Golden Eagle	Yes	LTS	SU	LTS	SU
Swainson's Hawk	Yes	LTS	SU	LTS	SU
Burrowing Owl	Yes	LTS	SU	LTS	SU
Nesting Birds	Yes	LTS	SU	LTS	LTS
Wintering Birds	Yes	LTS	SU	LTS	SU
Bats	Yes	LTS	SU	LTS	SU
American Badger and Desert Kit Fox	Yes	LTS	LTS	LTS	LTS
Special-Status Mice	Yes	LTS	LTS	LTS	LTS
Mohave Ground Squirrel	No	LTS	LTS	LTS	LTS
Wildlife Movement and Migration Corridors	N/A	LTS	LTS	LTS	SU
Local Policies or Ordinances Protecting Biological Resources	N/A	LTS	LTS	LTS	LTS
Avian and Bat Collision	N/A	N/A	SU	N/A	SU
Avian Electrocution	N/A	N/A	LTS	N/A	LTS
Displacement of Special-Status Avian and Bat Species	N/A	N/A	LTS	N/A	SU

1 – Decommissioning impacts are generally assumed to be equivalent to construction impacts
NI – No impact
LTS – Less than significant impact with mitigation incorporated
SU – Significant and unavoidable impact

Construction

- **WL-1 (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-

4 would reduce construction-related impacts to special-status wildlife to less than significant under Criterion WL-1.

- **WL-2 (Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites).** Implementation of Mitigation Measures 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce construction-related impacts related to interference with wildlife movement, movement corridors, and wildlife nursery sites to less than significant under Criterion WL-2.
- **WL-3 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce construction-related conflicts with local policies and ordinances to less than significant under Criterion WL-3.

Operation and Maintenance

- **WL-1 (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce O&M impacts to most special-status wildlife to less than significant under Criterion WL-1. However, impacts to special-status birds and bats from collisions with WTGs would remain significant and unavoidable.
- **WL-2 (Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites).** Implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce O&M impacts related to interference with wildlife movement, movement corridors, and wildlife nursery sites to less than significant under Criterion WL-2.
- **WL-3 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce O&M conflicts with local policies and ordinances to less than significant under Criterion WL-3.

Decommissioning

- **WL-1 (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce decommissioning impacts to special-status wildlife to less than significant under Criterion WL-1.
- **WL-2 (Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or**

impede the use of native wildlife nursery sites). Implementation of Mitigation Measures 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce decommissioning impacts related to interference with wildlife movement, movement corridors, and wildlife nursery sites to less than significant under Criterion WL-2.

- **WL-3 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce decommissioning conflicts with local policies and ordinances to less than significant under Criterion WL-3.

4.21.4 Alternative B: Revised Site Layout

4.21.4.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts included below covers construction, O&M, and decommissioning of Alternative B.

Construction

Construction-related impacts to wildlife resources associated with Alternative B would be the same as those described above for Alternative A. The total area estimated for use by Alternative B (including short-term disturbance) is exactly the same as Alternative A, but a number of WTGs would be relocated and associated access roads would be rerouted. This may result in a slightly greater or slightly lower magnitude of impact for a given species in a particular area depending on the exact location of the relocated facilities, but overall the impacts would be the same. Mitigation for construction activities would be the same as for Alternative A.

Operation and Maintenance

Alternative B would include the same operation and maintenance activities as Alternative A, and direct and indirect impacts associated with these activities would be the same with regard to wildlife resources. The number of WTGs operated under Alternative B would also be the same as Alternative A (106 WTGs), and risk of avian and bat collisions would be the same as described above for Alternative A. Mitigation for construction activities would also be the same as for Alternative A.

Decommissioning

Decommissioning activities associated with Alternative B would result in direct and indirect impacts to wildlife resources of the same type and magnitude as decommissioning of Alternative A. Mitigation for decommissioning activities would be the same as for Alternative A.

4.21.4.2 CEQA Significance and Impact Determinations, Alternative B: Revised Site Layout

The CEQA significance determinations for construction, O&M, and decommissioning of Alternative B would be the same as for Alternative A.

4.21.5 Alternative C: Reduced Project North

4.21.5.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts included below covers construction, O&M, and decommissioning of Alternative C.

Construction

Construction-related impacts to wildlife resources associated with Alternative C would be similar in type as those described above for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative C for most resources. Potential direct and indirect impacts to golden eagle, including loss of foraging habitat, would be reduced even further due to the removal of the northern parcel which is closest to active nests and the majority of the golden eagle activity recorded during surveys. Alternative C would also substantially decrease potential direct and indirect impacts to California condors, because the northern parcel that would be removed from the AEWP is also closest to known records of the species. In addition, condors would be most likely to occur in the Tehachapi Mountains and foothills to the north of and including the northern parcel as their current areas of activity are focused in similar types of areas to the west. Mitigation for construction activities would be the same as for Alternative A.

Operation and Maintenance

Direct and indirect O&M impacts to wildlife resources associated with Alternative C would be similar in type as those described above for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative C. Potential direct and indirect impacts to golden eagle, most notably risk of collision with WTGs, would be substantially reduced due to the removal of the northern parcel which is closest to active nests and the majority of the golden eagle activity recorded during surveys. Alternative C would also substantially decrease potential direct and indirect impacts to California condors, because the northern parcel that would be removed from the AEWP is also closest to known records of the species. In addition, condors would be most likely to occur in the Tehachapi Mountains and foothills to the north of and including the northern parcel as their current areas of activity are focused in similar types of areas to the west. Mitigation for O&M activities would be the same as for Alternative A.

Decommissioning

Decommissioning activities associated with Alternative C would result in direct and indirect impacts to special-status wildlife and wildlife movement similar to decommissioning of Alternative A, but the magnitude would be reduced in proportion to the reduction in project size associated with Alternative C. Mitigation for decommissioning activities would be the same as for Alternative A.

4.21.5.2 CEQA Significance and Impact Determinations, Alternative C: Reduced Project North

Impacts to wildlife resources would generally be slightly decreased under Alternative C when compared to Alternative A, in proportion to the reduction in size of this alternative. With the

implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4, the CEQA significance determinations for impacts to wildlife resources for Alternative C would be identical to those described above for Alternative A.

4.21.6 Alternative D: Reduced Project Southwest

4.21.6.1 Direct and Indirect Impacts

The analysis of direct and indirect impacts included below covers construction, O&M, and decommissioning of Alternative D.

Construction

Construction-related impacts to wildlife resources associated with Alternative D would be similar in type as those described above for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative D. Mitigation for construction activities would be the same as for Alternative A.

Operation and Maintenance

Direct and indirect O&M impacts to wildlife resources associated with Alternative D would be similar in type as those described above for Alternative A, but the magnitude would be reduced in proportion to the reduction in project size for Alternative D. Mitigation for O&M activities would be the same as for Alternative A.

Decommissioning

Decommissioning activities associated with Alternative D would result in direct and indirect impacts to special-status wildlife and wildlife movement similar to decommissioning of Alternative A, but the magnitude would be reduced in proportion to the reduction in project size associated with Alternative D. Mitigation for decommissioning activities would be the same as for Alternative A.

4.21.6.2 CEQA Significance and Impact Determinations, Alternative D: Reduced Project Southwest

Impacts to wildlife resources would generally be slightly decreased under Alternative D when compared to Alternative A, in proportion to the reduction in size of this alternative. With the implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4, the CEQA significance determinations for impacts to wildlife resources for Alternative D would be identical to those described above for Alternative A.

4.21.7 Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

4.21.7.1 Direct and Indirect Impacts

Under Alternative E (No Issuance of a ROW Grant or County Approval; No LUP Amendment) to the AEWP, no action would occur and existing conditions relevant to wildlife resources would continue, but could be altered at some point in connection with some future project. No impacts associated with the AEWP would occur.

4.21.7.2 CEQA Significance and Impact Determinations, Alternative E: No issuance of a ROW Grant or County Approval; No LUP Amendment (No Action)

Alternative E to the AEWP would result in no impacts to wildlife resources.

4.21.8 Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

4.21.8.1 Direct and Indirect Impacts

Under Alternative F (No Issuance of a ROW Grant or County Approval; Approval of a LUP Amendment to find the AEWP site suitable for wind energy development), no action would occur and no future development of the site for wind energy would occur. Existing conditions relevant to biological resources would continue, but could be altered at some point in connection with some future project. No impacts associated with the AEWP would occur under Alternative F.

4.21.8.2 CEQA Significance and Impact Determinations, Alternative F: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Unsuitable for Wind Energy Development Project (No Project)

Alternative F to the AEWP would result in no impacts to wildlife resources.

4.21.9 Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

4.21.9.1 Direct and Indirect Impacts

Under Alternative G (No Issuance of a ROW Grant or County Approval; Approval of a LUP Amendment to find the site suitable for wind energy development), no action would occur but future development of the site for wind energy could occur. Existing conditions relevant to biological resources would continue, but may be altered at some point in the future by construction of a some future proposed wind energy development. No impacts associated with the AEWP would occur under Alternative G, but impacts to wildlife resources similar to those described for Alternative A would likely occur in conjunction with any future wind energy development, but the specific types and magnitudes of impacts cannot be determined at this time.

4.21.9.2 CEQA Significance and Impact Determinations, Alternative G: No Issuance of a ROW Grant or County Approval; with Approval of a Land Use Plan Amendment to Identify the Area as Suitable for Future Wind Energy Development Project (No Project)

Alternative G to the AEWP would result in no impacts to wildlife resources from the AEWP, but a land use plan amendment could result in future impacts as a result of some future wind project similar to those described for Alternative A. However, the specific types and magnitudes of impacts cannot be determined at this time as no such project has been proposed, and therefore no CEQA significance determinations can be made.

4.21.10 Cumulative Impacts

4.21.10.1 Geographic Extent/Context

The geographic scope for the analysis of cumulative impacts related to wildlife resources includes the vicinity of all reasonably foreseeable cumulative projects and extends throughout the western Mojave Desert and Tehachapi and Piute Mountains ~~including the Tehachapi Wind Resource Area (TWRA)~~, as shown in Figure 4.1-1. The AEWP is located within or adjacent to federal and private lands that support native vegetation communities and are largely undeveloped or support existing wind energy developments. The following are areas of biological significance that have potential to be affected by the AEWP and reasonably foreseeable cumulative projects:

- California Desert Conservation Area/West Mojave Plan Area
- BLM Limited Use Lands
- Middle Knob and Horse Canyon Areas of Critical Environmental Concern (ACECs)

The analysis of cumulative effects considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resources being evaluated. The geographic scope of this analysis is based on the nature of the geography surrounding the AEWP and the characteristics and properties of each resource. In addition, each project will have its own implementation schedule, which may or may not coincide or overlap with the AEWP's schedule. This is a consideration for short-term impacts from the AEWP. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the AEWP.

A cumulative impact to wildlife resources would occur if the AEWP, combined with the reasonably foreseeable cumulative projects in the vicinity of each resource being evaluated, would result in: (1) special-status wildlife resources becoming limited in extent within the cumulative analysis area; (2) population declines of special-status wildlife resources within the cumulative analysis area; or (3) if compensation for those impacts cannot be achieved.

The specific geographic extent for the analysis of cumulative impacts to special-status wildlife resources is the western Mojave Desert and Tehachapi and Piute Mountains, with the following exceptions:

- Desert tortoise—Analysis based on Western Mojave Recovery Unit for the Mojave population of the desert tortoise (USFWS, 2011c)
- California condor—Analysis based on Southern California population

The western Mojave Desert and Tehachapi and Piute Mountains was selected as the geographic extent of the analysis of cumulative impacts to wildlife because most of the species potentially impacted by the Proposed Action range widely over this area, and therefore cumulative impacts over this area have the potential to impact many of these species at a regional population level. In addition, this geographic extent encompasses the area of Kern County that is actively being developed with other wind energy projects, and that supports existing wind energy projects that could combine with the Proposed Action to have similar effects to wildlife resources.

4.21.10.2 Existing Cumulative Conditions

Numerous existing wind developments occur in the vicinity of the AEWP, and scattered residential, commercial, and industrial developments including operating mines occur as well. Livestock grazing is common throughout the area. Areas to the south in Los Angeles County, such as Lancaster and Palmdale, are experiencing rapid urbanization. Urbanization, population growth, and continuing development pressure particularly in the Antelope Valley portion of the western Mojave Desert in Kern and Los Angeles Counties have brought about substantial changes to, and effects on, natural resources. Consequently, modification, alteration, fragmentation, and/or destruction of habitat for special-status wildlife species, avian and bat mortality at existing wind energy developments, and interference with wildlife movement are occurring throughout the region. Future growth and development in the analysis area will likely continue these impacts.

Vegetation communities are largely similar in the analysis area and consist primarily of a variety of desert scrubs at lower elevations and Joshua tree and California juniper woodlands, montane scrubs, and oak and pine woodlands at higher elevations. Annual grasslands occur interspersed throughout these communities, and livestock grazing and off-highway vehicle use are prevalent in the region. These communities support many invertebrates and vertebrate wildlife species including amphibians, reptiles, birds, and mammals. Many of these species are federal or state listed or designated with another special status (see Section 3.21.1.1). The most sensitive of species observed on the AEWP site that also occur elsewhere in the analysis area are the desert tortoise, golden eagle, Swainson's hawk, burrowing owl, and Mohave ground squirrel. California condor has not been observed on the AEWP site but is known to occur in the Tejon area and the Tehachapi Mountains to the southwest of the AEWP site, and has been occasionally recorded in the Tehachapi Mountains within five (5) miles of the site.

4.21.10.3 Reasonably Foreseeable Projects

Table 4.1-1 provides a listing of current and reasonably foreseeable projects, including other proposed or approved renewable energy projects; various BLM-authorized actions/activities; proposed or approved projects within the counties' jurisdictions; and other actions/activities that Lead Agencies consider reasonably foreseeable. Most of these projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the cumulative projects described in Table 4.1-1, their effects were considered in the cumulative impacts analyses in this Draft Plan Amendment, Draft Environmental Impact Statement/Environmental Impact Report (Draft PA, Draft EIS/EIR). Because the geographic area of effect for cumulative impacts to wildlife resources includes the entire region, all projects presented in Table 4.1-1 are considered in the analysis of cumulative effects for the AEWP.

There are five (5) other projects in very close proximity to the AEWP that would result in impacts to special-status wildlife species. These projects also could result in interference with wildlife movement or migration. These projects are (Table 4.1-1; Figure 4.1-1):

- 2,746-acre Rising Tree Wind Energy Project,
- 9,780-acre Alta Infill II Wind Project,
- 237-acre solar energy development proposed by The Aeromen LLC, and

■ Two (2) residential and commercial zone-change applications on 50 and 510 acres.

Also of particular note are development projects proposed on large tracts of land, which have the potential to reduce or eliminate large areas of habitat for special-status species and to pose large obstacles to wildlife movement for terrestrial species and birds and bats (for wind energy developments). Large-scale development projects in the vicinity of the AEWP site include several large proposed wind and solar developments (e.g., the 9,780-acre Alta Infill II Wind Project; 2,422-acre PdV Infill Project; 8,300-acre Pacific Wind Energy Project; 1,325-acre Pacific Wind Infill Project; 1,007-acre Windstar Energy Project; 4,782-acre Antelope Valley Solar Project, etc.) Many of these projects would cause losses to native vegetation communities that support special-status wildlife species, and could interfere with wildlife movement.

Wind energy development within the analysis area is of special concern to resource agencies because of the potential to contribute to population declines of special-status avian and bat species through mortality due to collisions with turbines. There are 21 wind energy developments proposed or existing within the analysis area, including the AEWP (Table 4.1-1). Five (5) of these projects are existing facilities; the remaining 16 projects are in the environmental review process or are under construction.

4.21.10.4 Construction, O&M, and Decommissioning

Direct impacts to wildlife as a result of the AEWP include temporary and permanent loss of habitat along with the displacement and/or potential mortality of wildlife species that are poor dispersers such as tortoises, snakes, lizards, and small mammals. Mortality of avian and bat species would result from collision with WTGs during operation of the AEWP. The list of cumulative projects implemented in undeveloped areas would have the potential to result in similar impacts, and the 23 additional wind development projects in the region would all pose risks to birds and bats as well. The current and reasonably foreseeable projects within the cumulative impacts analysis area would also impact many of same listed and special-status wildlife species as the AEWP, such as desert tortoise, coast horned lizard and silvery legless lizard, California condor, golden eagle, Swainson's hawk, burrowing owl, Cooper's hawk, sharp-shinned hawk, prairie falcon, American peregrine falcon, northern harrier, osprey, Vaux's swift, California horned lark, loggerhead shrike, Le Conte's thrasher, nesting birds, special-status bats, American badger, special-status mice, and Mohave ground squirrel. Impacts to these species would include direct loss of suitable habitat, direct loss of individuals, or indirect effects due to human disturbance or changes in habitat quality during construction, O&M, and decommissioning are discussed below. For each species, the subsections below present the analysis of cumulative impacts required under NEPA and close with a determination under CEQA as to the significance of the AEWP's contribution to those cumulative impacts.

Table 4.21-2 provides a summary of cumulative impacts to special-status wildlife species. This analysis considers all projects in the cumulative scenario for which environmental documents were available at the time of analysis (22 projects), as well as the Proposed Action. Environmental documents were reviewed, and a project was considered to have potential cumulative impacts to a species if the species was either noted as present or was identified as having a high likelihood to occur in that project's environmental analysis. Additional projects within the cumulative scenario may also have impacts to special-status wildlife species if developed; therefore, the data summarized in Table 4.21-2 should be considered the minimum of potential cumulative effects.

Table 4.21-2. Estimated Impacts to Special-Status Wildlife Species Associated with Foreseeable Cumulative Projects

Species Potentially Impacted by the AEWP	Number of Foreseeable Future Projects Impacting Species	Total Acreage of Future Projects Impacting Species	AEWP Contribution to Total Impacts (%)
Listed Species			
California condor (FE/SE)	15	53,097	4.9
Desert tortoise (FT/ST)	11	200,319	1.3
Mohave ground squirrel (--/ST)	14	206,669	1.3
Swainson's hawk (--/ST)	16	60,412	4.3
Non-Listed, Special-Status Species			
American badger (SSC)	13	48,461	5.3
American peregrine falcon (BCC; CDFG FP)	4	19,505	13.2
Burrowing owl (BCC; SSC; BLM S)	10	27,758	9.3
California horned lark (CDFG WL)	10	47,345	5.4
Coast horned lizard (SSC; BLM S)	15	58,888	4.4
Cooper's hawk (CDFG WL)	12	47,571	5.4
Golden eagle (BCC; BGEPA; CDFG FP and WL)	14	60,597	4.3
Le Conte's thrasher (BCC; SSC)	13	48,420	5.3
Loggerhead shrike (BCC; SSC)	17	60,928	4.2
Northern harrier (SSC)	13	53,068	4.9
Osprey (CDFG WL)	4	21,185	12.2
Prairie falcon (BCC; CDFG WL)	11	42,894	6.0
Sharp-shinned hawk (CDFG WL)	6	25,758	10.0
Various bat species (SSC and/or BLM S)	11	38,602	6.7
Various small mammals (mice) (SSC and/or BLM S)	10	46,647	5.5
Vaux's swift (SSC)	10	51,388	5.0

Existing projects identified in Table 4.1-1 cover over 1.4 million acres in the analysis area. These projects have also likely resulted in impacts to most if not all of the species considered in the analysis, but information quantifying effects to special-status wildlife is not available for existing projects.

Desert Tortoise

Activities within the analysis area continue to contribute to desert tortoise habitat degradation, as well as pose a direct risk of mortality to tortoises. These activities include vandalism, illegal dumping, livestock grazing, and unauthorized off-highway vehicle use. Approximately 70 percent (70%) of the lands surrounding the AEWP within the range of the desert tortoise are administered by the BLM; therefore, any federal action on those lands will be subject to consultation under Section 7 of the Endangered Species Act (ESA).

The AEWP is located within an area with poor to moderate habitat quality that supports a very low desert tortoise population that is separated from the greater tortoise population within the Western Mojave Recovery Unit by State Route 14. However, at least 10 foreseeable projects in

addition to the AEWP could impact desert tortoise in the region; these projects total over 200,000 acres. While the AEWP amounts to only 1.3% of foreseeable future impacts, taken cumulatively impacts to desert tortoises in the region would be substantial especially considering the fact that over 1.4 million acres in the region have already been developed. While it is unknown what proportion of existing projects have impacted desert tortoises, most of these projects are within the range of the species and many are within potential habitat for the species.

As described in Section 4.21.3, direct and indirect impacts to desert tortoises associated with the AEWP would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.21-4 (Raven Management Plan), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). Therefore, implementation of these measures would reduce the AEWP's contribution to this cumulative impact to less than significant under CEQA.

California Condor

Activities within the analysis area continue to threaten the California condor. These activities include illegal dumping, recreational shooting, and livestock grazing. As the purpose of the AEWP is to meet the regional demand for clean renewable energy, the AEWP is not expected to lead to an increase in the development of private lands locally. As noted above, approximately 70 percent (70%) of the lands surrounding the AEWP within the range of the California condor are administered by the BLM; therefore, any federal action on those lands will be subject to consultation under Section 7 of the ESA.

Cumulative impacts to California condors related to habitat loss, disturbance, microtrash, and ethylene glycol would be substantial within the cumulative analysis area. Although this species is currently not known to regularly use the desert areas within the geographic scope of the cumulative analysis, this species' range is expanding and it is possible that it could begin utilizing more of the region over the life of the AEWP. At least 15 foreseeable projects totaling 53,096 acres could cumulatively impact condors. The Proposed Action comprises 4.9% of the foreseeable future projects in the region.

As described in Section 4.21.3, direct and indirect impacts to California condors associated with the AEWP would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-5 (California Condor), 4.17 1 (Habitat Restoration and Revegetation Plan), 4.17 5 (Weed Control Plan), and 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). Implementation of these measures would reduce the AEWP's contribution to this cumulative impact, but cumulative impacts to the condor would remain significant and unavoidable under CEQA primarily due to the risk of collisions with WTGs from the AEWP and other wind developments in the region. Cumulative impacts to California condors as a result of Collision and electrocution risks are addressed below.

Golden Eagle

Direct and indirect impacts to golden eagle associated with the AEWP combined with impacts associated with past, present, and future projects are considered a cumulative impact to golden

eagle because the impacts have a potential to reduce the extent and population size of golden eagle in the cumulative impacts analysis area and because compensation for those impacts may not be achievable. These impacts include loss of foraging habitat and mortality due to collision with WTGs. Although some of the current and reasonably foreseeable projects listed in Table 4.1-1 could result in impacts to golden eagle nest sites, the AEWP would not impact known golden eagle nest sites and, therefore, the AEWP would not contribute to cumulative impacts to known nest sites.

At least 14 projects covering 60,597 acres are foreseeable within the geographic scope of the cumulative analysis. While the AEWP amounts to only 4.3% of foreseeable future impacts, taken cumulatively impacts to golden eagle in the region would be substantial, particularly with respect to mortality due to collisions with WTGs due to the number of existing and foreseeable utility scale wind developments in the area and the fact that golden eagle mortalities have been reported in relatively high numbers at a local wind development (Pine Tree Wind Farm). Collision and electrocution risks are addressed in more detail below.

As described in Section 4.21.3, direct and indirect impacts to golden eagles associated with the AEWP would be reduced with implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). Although implementation of these measures would reduce the AEWP's contribution to this cumulative impact, cumulative impacts to the golden eagle would remain significant and unavoidable under CEQA primarily due to the risk of collisions with WTGs from the AEWP and other wind developments in the region. Cumulative impacts to golden eagles as a result of collision and electrocution are addressed below.

Burrowing Owl

The burrowing owl is found the length of the State of California in appropriate habitats, but its numbers have been markedly reduced for at least the past 60 years by the conversion of grasslands, by other habitat destruction, and by the poisoning of ground squirrels. The AEWP and most of the current and reasonably foreseeable projects in the analysis area would impact the burrowing owl and have the potential to reduce the population size and extent of the species. There are at least 10 foreseeable projects on 27,758 acres that would impact the burrowing owl in the cumulative analysis area. The AEWP accounts for 9.3% of these. The magnitude of the AEWP's incremental contribution to the cumulative impact to burrowing owls is expected to be small given that there are approximately 20 to 50 pairs of owls that breed in the Antelope Valley (CDFG, 2003). Several burrows, some with sign were observed during surveys of the AEWP site and transmission line route. No owls were observed during protocol surveys, but one (1) owl was observed during avian use surveys. It is unknown whether breeding or wintering owls occur on site, and the number of owls or pairs, since multiple burrows are used by an individual or pair. Taken cumulatively, impacts to burrowing owls in the region would be substantial especially considering the fact that over 1.4 million acres in the region have already been developed. While it is unknown what proportion of existing projects have impacted burrowing owls, most of these projects are within the range of the species and many are within potential habitat for the species.

As described in Section 4.21.3, direct and indirect impacts to burrowing owls associated with the AEWP would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17 1 (Habitat Restoration and Revegetation Plan), 4.17 5 (Weed Control Plan),4.2-1 (Construction fugitive dust emission reduction), 4.2-3 (Operation fugitive dust and equipment emission reduction), as well as 4.18-1 and 4.18-4 (Minimize night lighting during construction and operation and maintenance) Although implementation of these measures would reduce the AEWP's contribution to this cumulative impact, cumulative impacts to the burrowing owl would remain significant and unavoidable under CEQA primarily due to habitat loss and the risk of collisions with WTGs from the AEWP and other wind developments in the region. Cumulative impacts to burrowing owls as a result of collision and electrocution are addressed in more detail below.

Bats

Direct and indirect impacts to special-status bats associated with the AEWP combined with impacts associated with past, present, and future projects are considered a cumulative impact to special-status bats because the impacts have the potential to reduce the extent and population size of one (1) or more of these species in the cumulative impacts analysis area and because compensation for those impacts may not be achievable. Although some of the current and reasonably foreseeable projects listed in Table 4.1-1 could result in impacts to bat roost sites, the AEWP would not impact known roosts. However, since potential roosting habitat is present within and near the AEWP site, direct and indirect effects to previously unidentified or new roost sites could occur if activities associated with implementation of the AEWP were to occur near those sits. Therefore, the AEWP could potentially contribute to cumulative impacts to bat roosts. Bat use of the AEWP area was found to be relatively low, but several special-status bats have a high potential to occur on site. At least 10 foreseeable projects in addition to the AEWP could impact special-status bats in the region; these projects total over 38,600 acres. The AEWP amounts to 6.7% of foreseeable future impacts to habitat. Taken cumulatively, impacts to special-status bats in the region would be substantial especially considering the fact that over 1.4 million acres in the region have already been developed. While it is unknown what proportion of existing projects have impacted special-status bats, most of these projects are within the range of many of the species considered in this analysis, and many existing projects are within potential habitat for bats.

As described in Section 4.21.3, direct and indirect impacts to special-status bats would be reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). Implementation of these measures would ensure the AEWP's contribution to cumulative impacts associated with habitat loss for special-status bats would be less than significant under CEQA. Cumulative impacts to special-status bats as a result of collision and electrocution are addressed below.

Mohave Ground Squirrel

Activities within the analysis area continue to contribute to Mohave ground squirrel habitat degradation, fragmentation, and loss, as well as pose a direct risk of mortality to this species. These activities include vandalism, illegal dumping, livestock grazing, and unauthorized off-highway vehicle use. At least 14 projects, including the AEWP, are foreseeable in the cumulative analysis area and could potentially impact Mohave ground squirrel. These projects cover over 206,600 acres, of which the AEWP comprises 1.3%.

The AEWP is not anticipated to contribute substantially to cumulative effects on the Mohave ground squirrel. This assessment is based on the location of the AEWP within an area with poor to moderate habitat quality. The area is at the extreme western end of the historic range for this species. Multiple trapping studies have been conducted on and near the AEWP in recent years, and all have been negative for this species. It is possible the local population has been extirpated, but if present, it is a very low-density population. Furthermore, increases in public access and unauthorized off-highway vehicle use from implementation of the AEWP are not anticipated.

As described in Section 4.21.3, the potential for direct and indirect impacts to Mohave ground squirrel associated with the AEWP would be further reduced by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.17-1 (Habitat Restoration and Revegetation Plan), 4.17-5 (Weed Control Plan), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction). The implementation of these measures would reduce the AEWP's contribution to these cumulative impacts to less than significant under CEQA.

Collision and Electrocution Risk

Resident and migratory bird and bat species are at risk of collision with project features associated with the AEWP as well as past, current, and reasonably foreseeable projects in the cumulative analysis area. These features include such structures as WTGs, meteorological towers, and overhead transmission lines. There are currently 21 wind developments proposed or existing within the analysis area, including the AEWP (Table 4.1-1). As described in Section 4.22.3.3, available data for the region generally show a relatively low bird and bat mortality rate compared to other wind development areas in the west. However, relatively high rates of avian mortality, especially for golden eagle, have been recently recorded at the nearby Pine Tree Wind Development. The Proposed Action and most of the other wind energy projects in the desert portions of the cumulative analysis area are not expected to (individually) result in mortality levels comparable to those recorded at Pine Tree Wind Development because of differences in terrain, habitat, and proximity to known migration corridors. However, the risk to birds and bats cannot be completely avoided. Because of a lack of data for area wind developments regarding both pre-project avian use and operational avian and bat mortality, quantitative cumulative estimates of fatality rates for regional wind developments cannot be made. While the site characteristics and pre-permitting avian use studies indicate that the AEWP itself would result in relatively low risk to birds and bats, it would nonetheless contribute to cumulative impacts to birds and bats from collision with WTGs in the region.

Impacts to golden eagle, California condor, and other special-status bird and bat species from WTG and meteorological tower strikes associated with the AEWP, combined with losses associated with past, present, and future projects are considered a cumulative impact to these bird

and bat species because the impacts have the potential to limit the populations of the species within the cumulative impacts analysis area. For this reason, the impact would be considered significant under CEQA. The AEWP and the other cumulative projects would be required to minimize potential collision risk by implementing mitigation measures. For the AEWP, these include Mitigation Measures 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-6 (Avian and Bat Protection Plan), 4.21-7 (Eagle Conservation Plan), 4.21-8 (Lighting Specifications to Minimize Bird and Bat Collisions), 4.21-9 (Minimize Avian and Bat Turbine Strikes), 4.21-10 (Post-Construction Breeding Monitoring), 4.21-11 (Post-Construction Avian and Bat Mortality Monitoring), 4.21-12 (Supplemental Measures for Unanticipated Significant Impacts), and 4.21-14 (Post-Construction Condor Monitoring) as described above in Section 4.21.3. Implementation of the AEWP's mitigation measures would reduce the AEWP's contribution to this cumulative impact, but impacts would remain significant and unavoidable under CEQA.

Overhead transmission lines associated with the AEWP and many of the other current and reasonably foreseeable projects also pose an electrocution risk for avian species, particularly for large, aerial perching birds such as hawks and eagles, because of their large wingspan (APLIC, 2006). Impacts to California condor, golden eagle, and raptors associated with the AEWP combined with losses of individual birds from electrocution associated with past, present, and future projects are considered a cumulative impact to these species because the impacts have potential to limit the populations of the species within the cumulative impacts analysis area. For the AEWP, potential impacts associated with electrocution and collision with transmission lines would be minimized through implementation of Mitigation Measure 4.21-13 (Avian Power Line Interaction Committee Standards), as described above in Section 4.21.3. The other current and reasonably foreseeable projects would be required to implement similar mitigation to reduce potential impacts from electrocution and collision with transmission lines. Therefore, implementation of the AEWP's mitigation measures would reduce the AEWP's contribution to this cumulative impact to less than significant under CEQA.

Displacement of Special-Status Avian and Bat Species

The AEWP has the potential to displace special-status avian and bat species from the project site. The 20 other existing and reasonably foreseeable wind energy development projects in the analysis area would also potentially displace special-status avian and bat species. Although similar undeveloped habitats are abundant in the region, these habitats may reach carrying capacity if multiple projects displace birds and bats into adjacent areas, which could result in population declines. In addition, compensation for those impacts may not be achievable. This would result in a cumulatively considerable impact that would be significant under CEQA. As described above in Section 4.21.3, indirect impacts associated with avian displacement from the AEWP site would be mitigated by implementation of an Avian and Bat Protection Plan (Mitigation Measure 4.21-6), restoration of temporary impacts to habitats on site (Mitigation Measure 4.17-1), pre-construction nesting surveys and establishing buffers around occupied nests (Mitigation Measure 4.21-3), and post-construction breeding monitoring (Mitigation Measure 4.21-10). The other current and reasonably foreseeable wind energy projects would likely be required to implement similar mitigation to reduce potential displacement impacts. However, information regarding the extent and effect of displacement from wind developments on regional avian and bat populations is currently not available. Implementation of the AEWP's

mitigation measures would reduce the AEWP's contribution to this cumulative impact, but impacts would remain significant and unavoidable under CEQA.

Wildlife Movement and Migration Corridors

The AEWP has the potential to disrupt wildlife movement. Although birds and bats migrate through the region, no known concentrated migration corridors exist on the AEWP site. Wildlife movement would be disrupted during construction due to avoidance of construction activities and temporary barriers to movement such as fencing. Permanent fencing would obstruct movement of many large animals during operation of the AEWP, but small animals and even some larger ones would be able to pass under the fence. Other development projects, including wind developments, energy infrastructure, and residential and commercial developments within the geographic scope of this analysis, would also disrupt wildlife movement to varying degrees. For example, transmission lines would not present appreciable barriers to movement as wildlife can move around and in between towers, but any residential and commercial developments would present a large obstacle to movement and would displace many species. Impacts to wildlife movement across the AEWP site would be mitigated by implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction), as described above in Section 4.21.3. Implementation of the AEWP's mitigation measures would reduce the AEWP's contribution to this cumulative impact, but impacts would remain significant and unavoidable under CEQA.

Other Special-Status Wildlife Species

Direct and indirect impacts to special-status invertebrates, coast horned lizard, silvery legless lizard, special-status avian species (e.g., Swainson's hawk, Cooper's hawk, sharp-shinned hawk, prairie falcon, American peregrine falcon, northern harrier, osprey, Vaux's swift, California horned lark, loggerhead shrike, and Le Conte's thrasher), nesting birds, special-status mice, and American badger associated with the AEWP would be minimal, with the exception of the risk of mortality due to bird and bat collisions with WTGs, addressed above. While other existing and foreseeable projects within the cumulative analysis area would have similar impacts, these impacts are not expected to reduce the extent or population size of these species in the cumulative impacts analysis area. With implementation of mitigation measures described above in Section 4.21.3, the AEWP's contribution to cumulative impacts to other special-status species would be less than significant under CEQA.

CEQA Significance and Impact Determinations: Construction, Operation and Maintenance, and Decommissioning

- **WL-1 (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game [CDFG] or United States Fish and Wildlife Service [USFWS]).** Implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce AEWP-related impacts to most special-status wildlife to less than significant under Criterion WL-1. However, AEWP-related operational impacts to special-status birds and bats from collisions with WTGs would remain significant and unavoidable. Impacts associated

with the AEWP combined with losses associated with past, present, and future projects are considered a cumulative impact; therefore, impacts are considered significant and unavoidable.

- **WL-2 (Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites).** Implementation of Mitigation Measures 4.21-1 (Designated Biologist), 4.21-2 (Wildlife Impact Avoidance and Minimization), 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds), 4.2-1 (Construction fugitive dust emission reduction), and 4.2-3 (Operation fugitive dust and equipment emission reduction) would reduce the AEWP's impacts to wildlife movement and migration corridors. However, interference with movement and migration, when combined with the impacts of past, present, and future projects, would be considered significant and unavoidable.
- **WL-3 (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance).** Implementation of Mitigation Measures 4.21-1 through 4.21-14, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4 would reduce AEWP-related conflicts with local policies and ordinances to less than significant under Criterion WL-3. The AEWP would be constructed in compliance with all applicable local policies and ordinances protecting biological resources. Therefore, impacts from the AEWP are not expected to contribute to any cumulative impacts from other projects and impacts are considered to be less than significant.

4.21.11 Mitigation Measures

If required, the AEWP will obtain ~~require~~ incidental take authorization for impacts to listed species through a Biological Opinion (BO) from the USFWS through the Section 7 consultation process under the ESA, and/or a 2081 Incidental Take Permit (ITP) from CDFG. The terms and conditions of these authorizations will supersede the mitigation measures identified below. For items that are addressed in the mitigation measures identified below as well as provisions of the BO and/or ITP, the most conservative measure will apply (for example, the highest mitigation ratio would apply). Nonetheless, in compliance with the requirements identified in CEQA, the project proponent will be required to comply with the reporting and documentation standards addressed in the mitigation measures ultimately approved by the Lead Agencies.

The following measures shall be implemented to avoid or reduce impacts to wildlife species from construction, O&M, and decommissioning of the AEWP. Prior to construction, the following plans shall be submitted to the appropriate agencies for review and approval. These plans or programs are explained below in more detail.

- Weed Control Plan
- Habitat Restoration and Revegetation Plan
- Fugitive Dust Control Plan
- Worker Education Awareness Program
- Wildlife Mortality Reporting Program
- Eagle Conservation Plan (project proponent submitted a Draft Eagle Conservation Plan to agencies for review on March 23, 2011)

- Avian and Bat Protection Plan (project proponent submitted a Draft Avian and Bat Protection Plan to agencies for review on April 28, 2011)
- Raven Management Plan
- Post-Construction Breeding Monitoring Program
- Post-Construction Bird and Bat Species Mortality Monitoring Program
- Burrowing Owl Mitigation and Monitoring Plan (if passive relocation of burrowing owls is proposed)

MM 4.21-1 **Designated Biologist.** Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, the project proponent shall employ a Designated Biologist and shall comply with the following:

1. The project proponent shall submit evidence to the Kern County Planning and Community Development Department and to the Bureau of Land Management which demonstrates that the Designated Biologist holds the following credentials:
    a. A Bachelor's degree with an emphasis in ecology, natural resource management, or related science;
    b. Three (3) years of experience in field biology or a current certification of a nationally recognized biological society such as The Ecological Society of America or the Wildlife Society;
    c. Previous experience with applying terms and conditions of a Biological Opinion; and,
    d. An appropriate permit and/or training if conducting focused or protocol surveys for listed or proposed species.
2. The Designated Biologist shall be employed for the duration of all construction activities and for any required post-construction biological monitoring and reporting activities; including, but not limited to: annual reporting on habitat restoration, post-construction avian and bat mortality monitoring, etc.
3. The Designated Biologist shall have the authority to ensure compliance with all applicable mitigation measures and requirements as set forth by the appropriate regulatory Agencies; including: Kern County, the Bureau of Land Management, the U.S. Department of Fish and Wildlife, the California Department of Fish and Game, and other agencies with appropriate jurisdictional authority. The Designated Biologist will have the authority and responsibility to halt any project activities that are in violation of the terms of the applicable mitigation measures and requirements.
4. The Designated Biologist shall continuously be subject to the following responsibilities:
    a. Notify the Bureau of Land Management's Authorized Officer, the Kern County Planning and Community Development Department, and the Wildlife Agencies at least 14 calendar days before initiating ground-disturbing activities;
    b. Immediately notify the Bureau of Land Management's Authorized Officer, the Kern County Planning and Community Development Department, and the Wildlife Agencies in writing if the project proponent does not comply with any of the terms of the Biological Opinion and/or

the 2081 take authorization including, but not limited to, any actual or anticipated failure to implement such measures within the periods specified;

c. Conduct compliance inspections daily during on-going construction as clearing, grubbing, and grading are completed, and submit a monthly compliance report to the Bureau of Land Management's Authorized Officer until construction is complete.

MM 4.21-2 Wildlife Impact Avoidance and Minimization. Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, the project proponent shall submit written documentation to the Kern County Planning and Community Development Department and the Bureau of Land Management of the following:

1. That the grading plans have minimized, to the greatest extent feasible, the area required for temporary construction work and operational activities. Except for permanent exclusionary fencing for desert tortoise, all fences installed on the project site will be a maximum of eight (8) feet in height, constructed of four (4) strand barbed wire or materials of a higher quality, with a smooth bottom wire at least eighteen (18) inches from the ground to facilitate wildlife movement during operation of the project.
2. Evidence that the Designated Biologist has been retained to monitor construction activities and to recover and relocate ground-dwelling special-status species as encountered during construction. Any capture and relocation activities shall require the appropriate scientific collecting permits issued by the California Department of Fish and Game (CDFG), if applicable. The recovery and relocation of ground-dwelling special-status species shall not include any species listed under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA); unless, the project proponent obtains the appropriate permit authorization as issued by the United States Fish and Wildlife Service and CDFG.
3. Evidence that a *Worker Education Awareness Program* will be administered to all construction and operational crew members, and that the program is available in English and Spanish. Training materials and briefings shall include, but not be limited to: discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; actions and reporting procedures to be used if desert tortoise, California condor, golden eagle, burrowing owl, Swainson's hawk, Mohave ground squirrel, or American badger are encountered; fire protection measures; measures to minimize the spread of weeds during construction; hazardous substance spill prevention and containment measures; a contact person at the on-call biological services provider in the event of the discovery of dead or injured wildlife; driving procedures and techniques to reduce mortality of wildlife on roads; and, review of mitigation requirements. A copy of the worker education training materials shall be provided to the United States Fish and Wildlife Service.
4. Evidence that the following design measures have been met on the final plot plan:

a. All ground-disturbing work and any work involving hazardous materials shall be conducted at least 100 feet from wetlands.

b. Specifications for wind tower foundations shall provide at least a 2,500-square-foot (50 feet by 50 feet) clear vegetation zone.

c. Turbine specifications shall ensure that the lower reach of rotor blades is no lower than 85 feet above the ground surface.

5. Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, the project proponent shall submit a *Wildlife Mortality Reporting Program* to the Bureau of Land Management and Kern County Planning and Community Development Department for review. This program shall be implemented during construction and operation, and shall require the identification and reporting of any dead or injured animals (both special-status and common species) observed by personnel conducting construction and operation activities. Reporting is necessary during construction and operation to demonstrate compliance with the avoidance and minimization measures, to assess the effectiveness of the measures, and to make recommendations, if necessary, for future compliance. The program shall also include provisions to stop work within the immediate vicinity if a dead special-status species is encountered. The project proponent shall notify the BLM, Kern County Planning Department, the on-call biologist, and the appropriate resources agency (e.g., USFWS or CDFG) before construction is allowed to resume. An appropriate reporting format shall be developed in coordination with the Bureau of Land Management, Kern County Planning and Community Development Department, United States Fish and Wildlife Service, and California Department of Fish and Game.

6. A speed limit of 15 miles per hour will be maintained on all dirt access/maintenance roads, and all vehicles must remain on designated access/maintenance roads.

7. Night lighting required during construction shall be directed toward the interior of the disturbance area or at the specific location being constructed in order to minimize adverse effects to wildlife in off-site areas.

MM 4.21-3 Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds. Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, the project proponent shall submit written documentation to the Kern County Planning and Community Development Department, the Bureau of Land Management, the California Department of Fish and Game, and/or the United States Fish and Wildlife Service, that the following pre-construction surveys have been prepared:

1. Pre-construction surveys for nesting birds if construction, ground disturbance, and/or vegetation trimming/removal activities are scheduled to occur during the breeding season (February 1 to August 31). A qualified biologist shall conduct the breeding bird surveys within three (3) days prior to the start of construction, ground disturbance, or vegetation trimming/removal activities to identify the presence of breeding birds protected by the Migratory Bird Treaty Act, California Fish and Game Code Sections 3503 and 3503.5, the Bald and Golden Eagle Protection Act, and the California and federal Endangered Species Acts. Should riparian habitats be encountered on the site, pre-construction nesting surveys for southwestern willow flycatcher, gray vireo, and western yellow-billed cuckoo following the most current

United States Fish and Wildlife Service protocols for each species will be conducted. If a nesting listed riparian bird is detected, a 500-foot disturbance-free buffer will be established and Kern County, California Department of Fish and Game, and/or the United States Fish and Wildlife Service (as appropriate) shall be notified. If nesting birds are encountered during preconstruction nesting surveys and/or sweeps, a 300-foot disturbance-free buffer shall be established around each nest, and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. Buffer sizes may be modified in consultation with the California Department of Fish and Game and/or the United States Fish and Wildlife Service.

If nesting golden eagles are identified, a 1/4-mile no-activity buffer will be implemented when nests have a direct line of sight to the work area. If the work area is not within direct view of the nest, the no-disturbance buffer shall be 660 feet. Nest buffers for eagles and other nesting birds may be adjusted to reflect existing conditions including ambient noise, topography, and species' disturbance tolerance with the approval of the appropriate resource agencies (California Department of Fish and Game and/or United States Fish and Wildlife Service).

Should project construction or operation result in an anticipated need to move a bird nest during nesting season, the project proponent shall first obtain written documentation providing concurrence from the United States Fish and Wildlife Service and the California Department of Fish and Game authorizing the nest relocation. The project proponent shall provide a written report to the Kern County Planning and Community Development Department, the United States Fish and Wildlife Service, and the California Department of Fish and Game documenting the relocation efforts. The report shall include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and outcome (whether or not the chicks survived and fledged). Should any applicable Agency determine that the nests cannot be moved, the project proponent shall not move the nests.

2. Pre-construction nesting surveys will be conducted within one-half (1/2) mile of areas with potentially suitable nesting habitat for Swainson's hawks no more than 30 days prior to commencement of construction. If a nest site is found, consultation with California Department of Fish and Game and the United States Fish and Wildlife Service shall be required to ensure project construction will not result in nest disturbance. No new disturbances or other project-related activities that may cause nest abandonment or forced fledging shall be initiated within one-half (1/2) mile of an active nest between March 1 and September 15, or unless otherwise authorized by the California Department of Fish and Game and the United States Fish and Wildlife Service, as required. These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist, the California Department of Fish and Game and the United States Fish and Wildlife Service. If impacts to nesting Swainson's hawks cannot be avoided, the California Department of Fish and Game and the United States Fish and Wildlife Service shall be consulted regarding the potential for incidental take authorization.

3. Pre-construction surveys for the Mohave ground squirrel will be conducted within all suitable habitat prior to initial ground-disturbing activities, including along the transmission line route. Surveys shall include a map of all potentially suitable habitat within the project area and along the transmission line route. The name and phone

number of the biologist(s) proposed for the survey effort shall be provided to the California Department of Fish and Game and to the United States Fish and Wildlife Service at least 14 days before the initiation of ground-disturbing activities. If a Mohave ground squirrel is found on the construction site, work shall be halted and redirected to areas not supporting this species unless an incidental take authorization from the California Department of Fish and Game and/or the United States Fish and Wildlife Service directs otherwise. A written report shall be sent to California Department of Fish and Game and the United States Fish and Wildlife Service within five (5) calendar days of the sighting. The report will include the date, time of the finding or incident (if known), and location of the animal. If a dead Mohave ground squirrel is encountered the remains shall be collected, frozen as soon as possible, and California Department of Fish and Game and the United States Fish and Wildlife Service shall be contacted to determine where the remains will be sent.

If Mohave ground squirrels are detected during any project surveys, the project proponent shall provide the Kern County Planning and Community Development Department and the Bureau of Land Management with a map of all occupied habitat associated with the project. The project proponent shall also consult with the California Department of Fish and Game and the United States Fish and Wildlife Service regarding the potential for incidental take authorization.

4. Pre-construction surveys for American badger will be conducted within suitable habitat no more than 30 days prior to the start of construction activities. If present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den. Maternity dens shall be avoided during pup-rearing season (February 15 through July 1) and a minimum 200-foot buffer established. Maternity dens shall be flagged for avoidance, identified on construction maps, and a Biological Monitor shall be present during construction. If avoidance of a non-maternity den is not feasible, the project proponent shall consult with the California Department of Fish and Game, Bureau of Land Management, the United States Fish and Wildlife Service and the Designated Biologist regarding relocation procedures.

5. Pre-construction surveys for desert kit fox will be conducted within suitable habitat no more than 30 days prior to the start of construction activities. If present, occupied kit fox dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den avoided. Maternity dens shall be flagged for avoidance, identified on construction maps, and a biological monitor shall be present during construction. If an occupied desert kit fox den is encountered, all work in the immediate vicinity shall stop until the California Department of Fish and Game, the United States Fish and Wildlife Service, and the Designated Biologist are consulted for the appropriate course of action.

6. Surveys for roosting bats shall be conducted during the maternity season (March 1 to July 31) for any project area that is located within 300 feet of rocky outcrops or other habitat capable of supporting bat nursery colonies. These areas shall be surveyed by a qualified bat biologist. Surveys shall include a minimum of one (1) day and one (1) evening visit. If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed). If avoidance of the roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other methods approved by California Department of Fish and Game) for nearby alternative maternity colony sites. If the bat biologist determines, in consultation with and with the approval of the California Department of Fish and Game, that there are

alternative roost sites used by the maternity colony and young are not present, then no further action is required. However, if there are no alternative roost sites used by the maternity colony, provision of substitute roosting bat habitat is required. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then exclusion of bats prior to demolition of roosts is required.

a. If a maternity roost will be impacted by the project, and no alternative maternity roosts are in use within one (1) mile of the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the project site no less than three (3) months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats' requirements in coordination with California Department of Fish and Game, the Bureau of Land Management, and Kern County Planning and Community Development Department. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The California Department of Fish and Game shall also be notified of any hibernacula or active nurseries within the construction zone.

b. If non-breeding bat hibernacula are found in rocky outcrops scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, according to timing and under the direction of the qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one (1) week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost. This action should allow all bats to leave during the course of one (1) week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one (1) night between initial disturbance and the grading or tree removal).

   If an active maternity roost is located in an area to be impacted by the project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.

7. Pre-construction surveys for burrowing owls shall be conducted in conformance with the California Department of Fish and Game's *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012), within all suitable habitat within a 150-meter(492-foot) buffer zone of each work area, or as otherwise authorized by the California Department of Fish and Game. The project proponent shall submit the results of the pre-construction survey to the Bureau of Land Management's Authorized Officer, the Kern County Planning and Community Development Department, the California Department of Fish and Game, and the United States Fish and Wildlife Service. The project proponent shall also submit evidence of conformance with federal and State

regulations regarding the protection of the burrowing owl by demonstrating compliance with the following:

a. Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31); unless a qualified biologist approved by California Department of Fish and Game verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans (developed in accordance with California Department of Fish and Game protocol for burrowing owls) by California Department of Fish and Game and receipt of formal written approval from the California Department of Fish and Game authorizing the eviction.

b. Any damaged or collapsed burrow that shows evidence of use by burrowing owl will be replaced with artificial burrows in adjacent habitat.

c. Unless otherwise authorized by California Department of Fish and Game, a 250-foot buffer, within which no activity will be permissible, will be maintained between project activities and nesting burrowing owls during the nesting season (February 1 through August 31). This protected area will remain in effect until August 31 or at California Department of Fish and Game's discretion and based upon monitoring evidence, until the young owls are foraging independently. A 160-foot disturbance-free buffer will be maintained around all occupied burrows during the non-breeding season (September 1 through January 31). Disturbance-free buffers may be modified based on site-specific conditions in consultation with the California Department of Fish and Game.

d. If accidental take (disturbance, injury, or death of owls) occurs, the Designated Biologist will be notified immediately.

e. Impacts to burrowing owl territories shall be mitigated through a combination of off-site habitat compensation and/or off-site restoration of disturbed habitat to native habitat capable of supporting this species. The acquisition of occupied habitat off-site shall be in an area where turbines would not pose a mortality risk. Acquisition of habitat shall be consistent with the California Department of Fish and Game's *Staff Report on Burrowing Owl Mitigation* (CDFG, 2012). The preserved habitat shall be occupied by burrowing owl and shall support native vegetation, and shall be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of disturbance, habitat structure, and dominant species composition, as determined by a qualified ornithologist. Preservation of cultivated lands will not be allowed in order to ensure the habitat will be preserved in perpetuity. The site shall be approved by the California Department of Fish and Game. Land shall be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. The offsite area to be preserved can coincide with off-site

mitigation lands for permanent impacts to sensitive vegetation communities, with the approval of the Bureau of Land Management and the California Department of Fish and Game.

8. Prior to the issuance of grading or building permits by the County and/or a Notice to Proceed from the BLM, the project proponent shall submit written documentation to the Kern County Planning and Community Development Department and to the Bureau of Land Management demonstrating how the following desert tortoise mitigation will be implemented during construction activities:

   a. Temporary tortoise-proof fencing shall be erected and maintained between the project construction areas and suitable desert tortoise habitat before initiating clearance surveys for desert tortoise and construction on the project site. Installation of fencing will be monitored by a Biological Monitor. Fencing shall be maintained with oversight from a Biological Monitor and/or the Designated Biologist.

   b. Continuous weekly verification by a Biological Monitor shall occur to ensure that a tortoise has not been trapped within the fence and the fence remains intact.

   c. Two desert tortoise clearance surveys shall be conducted immediately after constructing the tortoise-proof fence. The surveys shall cover 100 percent of the exclusion area.

   d. Trash receptacles at the work site will have self-locking lids to prevent entry by opportunistic predators such as common ravens and coyotes.

   e. Whenever a vehicle or any construction equipment is parked longer than 15 minutes within desert tortoise habitat, the ground around and underneath the vehicle will be inspected for desert tortoises prior to moving the vehicle. If a desert tortoise is observed, a Biological Monitor shall be contacted. The tortoise shall be left to move on its own. Tortoises shall not be handled unless otherwise authorized by the Biological Opinion and 2081 take authorization.

   f. A Biological Monitor shall be on site to survey for tortoises immediately in front of vegetation clearance activities including, but not limited to, construction sites, staging areas, and access routes in the event a tortoise was inadvertently missed during clearance surveys.

   g. Potential desert tortoise burrows found in the construction zone, whether occupied or not, shall be avoided by realignment of the construction path. If realignment is not feasible, then the United States Fish and Wildlife Service and the California Department of Fish and game shall be consulted to determine whether burrow excavation is feasible, and to obtain authorization for excavation and relocation of tortoise(s) and/or egg(s), if applicable. Desert tortoise burrows and pallets that fall outside of, but within 50 feet of, the construction work area shall be flagged for avoidance.

h. Construction pipe, culvert, or similar structures with a diameter greater than three (3) inches and stored less than eight (8) inches above ground on the construction site for one or more nights shall be inspected for tortoises and other special-status wildlife before the material is moved, buried, or capped. As an alternative, structures may be capped before being stored on the construction site.

i. Open trenches shall be fenced with temporary tortoise-proof fencing or inspected by authorized personnel periodically, at the beginning and at the end of each day, and immediately before backfilling. Any tortoise that is found in a trench shall be promptly removed by authorized personnel in accordance with the Biological Opinion. If the biologist is not allowed to enter the trench for safety reasons, the United States Fish and Wildlife Service will be contacted immediately for authorization to proceed with alternative methods.

j. Within 90 days of completion of project activities, the Designated Biologist shall submit a report to the Bureau of Land Management's Authorized Officer, Kern County Planning and Community Development Department, United States Fish and Wildlife Service, and California Department of Fish and Game documenting the numbers and locations of desert tortoises encountered, their disposition, effectiveness of protective measures, practicality of protective measures, and recommendations for future measures that allow for better protection or more workable implementation.

k. The Designated Biologist shall notify the Bureau of Land Management, Kern County Planning and Community Development Department, United States Fish and Wildlife Service, and California Department of Fish and Game within 24 hours upon locating a dead or injured desert tortoise during the construction phase of the project. The notification shall be made by telephone and in writing to the Bureau of Land Management's Authorized Officer, United States Fish and Wildlife Service, California Department of Fish and Game, and Kern County Planning and Community Development Department. The report shall include the date and time of the finding or incident (if known), location of the carcass, a photograph, cause of death (if known), and other pertinent information. Tortoises fatally injured during project-related activities shall be submitted for necropsy.

l. The Designated Biologist and/or Biological Monitor shall be present during maintenance outside the established tortoise exclusion areas to assist in the implementation of protection measures for the desert tortoise and to monitor compliance.

m. If any operation and maintenance activity must be conducted during the desert tortoise active period (March 15 to May 31 and September 1 to October 31) that may result in ground disturbance, such as weed management or vehicular access off of a designated access/maintenance

road, a Biological Monitor shall be present during such activity to ensure that no desert tortoise mortality results.

MM 4.21-4 **Raven Management Plan.** Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, a *Raven Management Plan* shall be developed for the project site in consultation with the United States Fish and Wildlife Service and California Department of Fish and Game. Implementation of the Raven Management Plan only applies to areas that are desert tortoise habitat. The Raven Management Plan will require measures such as annual nest removal by a qualified biologist in consultation with the California Department of Fish and Game and the United States Fish and Wildlife Service, removal of carrion at the base of wind turbine generators, storage of garbage in raven-proof containers, and installation of anti-nesting devices on structures where raven nests could be built. In addition, to offset the cumulative contributions of the project to desert tortoise from increased raven numbers, the project proponent shall also contribute to the United States Fish and Wildlife Service Regional Common Raven Management Program through the payment of fees not to exceed $105 per disturbed acre. This number shall be verified utilizing the formula established by the Desert Managers Group.

MM 4.21-5 **California Condor.** Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, the project proponent shall submit written documentation to the Bureau of Land Management's Authorized Officer, the Kern County Planning and Community Development Department, California Department of Fish and Game, and the United States Fish and Wildlife Services of the following regarding the California condor:

1. A qualified biologist with demonstrated knowledge of California condor identification will be on site to monitor all construction activities within the project area and assist the project proponent in the implementation of the monitoring program.
2. Workers will be trained on the issue of microtrash and its potential effects to California condors. In addition, daily sweeps of the work area will occur to collect and remove trash. All spills of ethylene glycol will be cleaned up immediately and a report documenting the actions taken to remediate the spill will be provided to Bureau of Land Management, Kern County Planning and Community Development Department, United States Fish and Wildlife Service, and California Department of Fish and Game within five (5) calendar days of the incident.
3. As part of the Worker Education Awareness Program, the project proponent shall develop a flier that will be distributed to all workers on the project concerning information on the California condor. Information to be included consists of the following: species description with photos and/or drawings indicating how to identify the California condor and how to distinguish condors from turkey vultures and golden eagles; protective status and penalties for violation of the federal and California Endangered Species Acts; avoidance measures being implemented on the project; and contact information for communicating condor sightings. A copy of the flier shall be submitted to the Bureau of Land Management's Authorized Officer and Kern County Planning and Community Development Department to demonstrate compliance with this mitigation.

4. All California condor sightings in the project area during construction will be reported directly to the United States Fish and Wildlife Service, California Department of Fish and Game, Bureau of Land Management, and Kern County within 24 hours.

5. The project proponent shall provide written documentation to the Kern County Planning and Community Development Department and the Bureau of Land Management showing implementation of the following additional measures:

   a. Bird flight diverters shall be installed on all temporary meteorological tower guy wires constructed as part of the project. All permanent meteorological towers shall be free-standing and not contain guy wires.

   b. During periods of livestock grazing, a full-time monitor shall be present to ensure immediate removal of carcasses on the project site. These practices shall include a full-time monitor during periods of livestock grazing that will be present to ensure immediate removal of carcasses from the project site to an off-site location far enough from wind developments so as not to present a risk to condors foraging on the carcasses. The monitor shall also assist in designating an area for burial of carcasses or, alternatively, assist the rancher in removing the carcasses to the nearest County landfill site that accepts dead livestock. The project proponent shall also ensure that the monitor is verifying that all watering troughs are inaccessible to wildlife (covered, empty, etc.) during periods when grazing is not occurring.

   c. The applicant shall work together with the area grazing permittees to develop Best Management Practices to minimize attraction of condors to the project area

   d. Funding for conservation measures such as radio telemetry, condor feeding programs, or other such measures as deemed appropriate shall be provided to the California Condor Recovery Program. Funding shall be calculated at six (6) units per one hundred (100) turbines installed as part of the project. Prior to the issuance of any building or grading permits for the first (1st) turbine, the project proponent shall fund six telemetry units in the amount of $188,100 ($4,150 per unit plus an "endowment" of $163,200 to be used for tracking data over an eight-year period). Prior to the issuance of any building or grading permits for the one-hundred-and-first (101st) turbine, the project proponent shall fund six additional telemetry units in the amount of $188,100 ($4,150 per unit plus an endowment of $163,200 to be used for tracking data over an eight year period). The total funding to be provided shall not exceed $376,200 or funding requirements in the Biological Opinion, whichever is greater.

MM 4.21-6 **Avian and Bat Protection Plan.** Prior to the issuance of building permits by Kern County, the project proponent shall submit a current copy of their *Avian and Bat Protection Plan,* or equivalent document, to the Kern County Planning and Community Development Department and the Bureau of Land Management.

MM 4.21-7 **Eagle Conservation Plan.** Prior to the issuance of building permits by Kern County, the project proponent shall ~~shall~~ provide documentation to the California Department of Fish and Game, United States Fish and Wildlife Service, and the Kern County Planning and Community Development Department that the project is in compliance with the Bald and Golden Eagle Protection Act (Title 16, United States Code, sections 668 668c).

MM4.21-8 **Lighting Specifications to Minimize Bird and Bat Collisions.** Prior to the issuance of grading or building permits by Kern County and/or a Notice to Proceed by the BLM, and to reduce collisions of avian and bat species with turbines, the project proponent shall submit written documentation to the Kern County Planning and Community Development Department and the Bureau of Land Management demonstrating coordination with the Federal Aviation Administration to minimize the number of wind turbine generators and meteorological towers that require night lighting and to use lighting that would minimize attraction of birds and bats to the project area. The project proponent shall utilize only red, or dual red and white strobe, strobe-like, or flashing lights, not steady burning lights, to meet Federal Aviation Administration requirements for visibility lighting of WTGs, permanent met towers, and communication towers. Only a portion of the turbines within the wind project should be lighted, and all pilot warning lights should fire synchronously.

MM 4.21-9 **Minimize Avian and Bat Turbine Strikes.** Prior to turbine commissioning or other turbine operations or issuance of approval for final occupancy by Kern County, the project proponent shall submit written documentation to the BLM and Kern County Planning and Community Development Department, the California Department of Fish and Game (CDFG), and the United States Fish and Wildlife Service (USFWS) showing that the following measures to reduce avian and bat impacts from turbine activities have been implemented:

1. Wherever feasible, turbines shall not be sited on or immediately adjacent to the upwind sides of ridge crests.
2. Turbine construction shall minimize cutting into hill slopes in an attempt to achieve smooth rounded terrain, rather than sudden berms or cuts, to reduce prey abundance.
3. Rocks unearthed during the excavation process shall be used during construction of foundations or hauled off site and disposed of properly, and not be left in piles near turbines to avoid providing cover for prey.
4. Discourage small mammals and reptiles from burrowing under or near turbine bases by placing gravel at least 5 feet around each tower foundation.
5. The wind component developer shall not participate in rodent control programs on leased lands and will discourage landowners from using poisoning for rodent control in the vicinity of the project.
6. All meteorological towers shall be un-guyed, unless evidence is provided that topography, safety, access and/or climate conditions prohibit free standing towers. Any proposed temporary meteorological towers which utilize guy wires will require review and authorization by Kern County on a case-by-case basis and shall require

use of bird deterrents. Temporary MET towers shall only be permitted for three years.

7. Prior to turbine commissioning or any turbine operation, the project proponent, in consultation with the BLM (on federal lands) and/or Kern County Planning and Community Development Department (on private lands) shall implement one of the following options for reducing impacts to the California Condors:

   A) The project proponent shall provide a plan to the BLM, the CDFG, and the USFWS for review and approval for implementing full-time human observation, during daylight hours, for condor activities on the project site and a sufficient buffer outside the project to ensure that if a condor is sighted turbines may be safely shut down prior to a condor reaching the strike hazard. This distance will be determined in close coordination with USFWS and CDFG, defined as the turbine operation area (TOA), for the term of the grant. The condor observation site(s) within the TOA will be identified in the plan and shall be staffed by a qualified avian biologist who is approved by the BLM, the CDFG, and the USFWS. The observation sites will provide 100% coverage of the project area plus buffer to ensure that a condor could not visually be missed should it be flying in the area. Observation shall be conducted year-round during all daylight hours of operations, including 30 minutes prior to sunrise and 30 minutes after sunset. By accessing the project's SCADA system, each approved observer will have the authority to curtail all turbine operations in the TOA if a condor enters this area. These protocols could be adapted, with approval from FWS and CDFG, if future data collection and analyses demonstrate the newly proposed protocols would meet a 100% avoidance criteria.

   OR

   B) The project proponent shall submit for review and approval a Condor Monitoring and Avoidance Plan utilizing a reliable Condor Monitoring System (CMS) that will detect VHF-tagged condors. The purpose of this plan is to outline the procedures and compliance steps undertaken by the project proponent to implement focused curtailment of proposed wind turbine generators when a California Condor is detected with a range of up to, but not exceeding 16 miles away.

   The placement of any such CMS will be approved by Kern County in consultation with USFWS, CDFG, BLM and shall include at a minimum the following components:

   - Receiver with datalogger
   - Antenna switchbox with amplifier
   - Omnidirectional antenna
   - PC with Internet connection
   - Transmitter for receiver qualification testing, as well as for use as a sentinel signal once permanently deployed.

   The CMS shall include, but not be limited to, the following additional procedures or components:

   1. Curtailment of wind farm operations shall commence at the time a condor comes within 1 mile of the project site. Curtailment Sectors (groups of turbines) have been identified and shall be built into the

software controls for the wind farm. Curtailment commands may be given for curtailment of specific sectors or all sectors of the facility at the discretion of the Project Site Observer.

2. Wind turbine speeds can be reduced to 15 miles per hour (mph) from 60 to 90 seconds after the curtailment commend is given, depending on the type of turbine. If the project installs turbines that require 90 seconds to reach this speed a distance of 2 miles shall be used to trigger the curtailment command instead of 1 mile. No turbines shall be installed that do not have the ability to curtail within 90 seconds.

3. Telemetry antennae towers shall be placed to avoid blind spots that would allow transmittered condors to enter the wind farm with little advance warning. A lattice detection network shall be implemented.

4. If a condor signal is detected and then subsequently lost, the condor shall be treated as if it is moving towards the project site. If the Project Site Observer cannot establish initial visual contact with the condor, the observer shall spend the remainder of the day on high alert until 30 minutes after sunset. The observer shall continually use hand-held VHF detection equipment and visual lookout in order to send a curtailment command if a condor comes within 1 mile of the project site. Close-Proximity Response shall be practiced in order to facilitate observer search image refinement. Small remote aircraft may be operated within 4 miles of the wind turbines to perform drills and reduce full-time observer response time.

5. If a condor has triggered the detection system and subsequently the signal is lost, and the Project Site Observer cannot locate the condor either visually or with a receiver, one of the following procedures shall be implemented:

    a. Good visibility weather conditions (i.e., no fog or sand storm) allows for detection by the observer, but the terrain or distance to the condor prevents visual observation. Unless the observer believes a threat exists, curtailment will not be required as the observer will be able to see the condor as it moves closer into visible range. The curtailment command will not be issued until the condor is seen within the 1 mile perimeter of the project site.

    OR

    b. Poor visibility weather conditions (i.e., heavy fog or sand storm) preclude detection of the condor by the observer, regardless of terrain or distance to the condor. This scenario shall result in curtailment because the observer may not be able to see the condor.

6. If condor movement result in consistent alarms of a bird entering the detection area, but it remains far from the wind turbines, the following procedures shall be implemented:

a. Once the Project Site Observer communicates that no condor is within 1 mile of the project it will be the responsibility of other Condor Incident Response Team (CIRT) members to search until a visual location is made of the condor that triggered the alert or the alert has lapsed. After a full search for the condor that has triggered an alert, CIRT members may be directed by the CIRT Lead to discontinue monitoring if a condor is not visually detected. The CIRT Lead can direct the CIRT members to discontinue the attempt to visually locate a condor if the signal strength detected by the detection network is too low or the project site has sufficient detection ability should the condor come within 1 mile of the project site. However, the Project Site Observer shall spend the remainder of the day on high alert until 30 minutes after sunset. The observer shall continually use hand-held VHF detection equipment.

b. The SCADA operator and CIRT members will continually monitor visual and VHF information specific to any condor locations. If a CIRT member has visually detected a condor, they will relay location relative to the project site, landmarks, direction of flight, and flight behavior to the CIRT team. If the SCADA operator has a VHF detection of a condor, they will relay transmitter frequency, relative direction from the antenna, and signal strength to the CIRT team. Additionally, every two minutes all CIRT members will receive the information by text and email on their digital devices if a condor is within the detection perimeter.

c. If a condor is visually located and reported as "moved out of the detection network perimeter," the Project Site Observer will visually scan the area around the project site. This will occur each time the condor enters the detection network perimeter.

d. The CIRT, in responding to subsequent condor alerts for any period of time for a condor that is reoccurring, will take information from previous responses such as transmitter frequency, relative direction from antenna, and signal strength into account to determine if there is a particular condor that is occurring more regularly than historically reported. The frequency, location, and duration of reoccurring condor alerts will be used by the CIRT Lead to determine the relative level of risk that exists and how the future response by the CIRT will be carried out in order to avoid condor mortality at the project site. At no time will an alert be ignored regardless of the number of times a condor may trigger the detection system.

7. If a condor roost is identified within the 16-mile detection radius of the telemetry tower, the project proponent shall consult with the USFWS as required based on condor behavior and tracking information. Constant on-site surveillance shall be required if a condor frequents

the detection area due to a roost. Refinement in the detection of specific condors that establish or use a new roost may be necessary. Details for refining the monitoring and detection of changed occurrence patterns of future condors will be based on specific behavior observed as changes occur. No reduction by CIRT in response to detection alerts shall occur.

If specific condors are roosting in a new area inside the network detection perimeter, one option for monitoring would involve installation of additional antennas. Condor VHF frequencies can be programmed into a secondary antenna that has a smaller detection range centered at the project site. This secondary antenna will be programmed to only scan for condors that are known to be regularly using a roost within the 16 mile perimeter and will only scan to a 3 mile radius. Scanning for condors that roost within the detection network perimeter, but do not enter areas within 3 miles of the project site can be accomplished with two antennas each set to monitor different risk zones. This will allow for initiation of the appropriate response by CIRT when a condor that regularly triggers alerts within the 16 mile perimeter, triggers an alert within 3 miles of the project site.

8. The project proponent shall implement the following protocol for recording and reporting condor detections and the proponent's responses to detections:

   a. The project proponent will staff the CIRT Lead position with a full-time biologist. The CIRT Lead will be responsible for coordination with USFWS staff regarding report of data collected by the network detection system. USFWS will provide the point of contact for such coordination. A reporting protocol with the USFWS will be established.

   b. The project proponent will report a condor alert that results in a visual observation and/or curtailment order that occurs for the project.

   c. A central data collection and reporting system will be developed to organize and manage information regarding the network detection system.

   d. A copy of the CIRT Log on response to a detection alert will be provided to the USFWS within 48 hours of completion.

   e. BLM and the project proponent agree that further refinement of the protocol will be implemented during the consultation process.

9. The project proponent shall implement the following protocol for communicating with the Condor Recovery Program regarding re-tagged condors or release of new birds:

a. The CIRT Lead will acquire weekly updates on the current list of VHF frequencies in use by the Condor Recovery Program. Email is the current method of data sharing and will continue under the project. As an alternative, the Condor Recovery Program can update the CIRT Lead as birds are re-tagged on a real-time basis.

b. CIRT will be trained on the programming and maintenance of both fixed and handheld telemetry equipment that will include weekly updates of receivers for the most current VHF frequencies.

c. Hardware will be developed to remotely update the fixed network detection system.

d. Update frequencies will be programmed into handheld and fixed telemetry equipment on a weekly basis or as changes occur.

e. BLM and the project proponent agree that further refinement of the protocol will be implemented during the consultation process.

The system shall be active during daytime hours, which includes 30 minutes prior to sunrise and 30 minutes after sunset, for a period of 3 years. During this initial testing period, the project proponent shall submit quarterly reports to Kern County, USFWS, CDFG, and BLM regarding the system's findings and curtailment activities. After a period of 3 years, the system will be evaluated by Kern County, BLM, USFWS, and CDFG for overall effectiveness in detecting and implementing focused curtailment related to reducing impacts to the California condor. If after a period of 3 years it is determined by the reviewing agencies that additional measures or modifications to the system are necessary to ensure the system is effective in detecting and implementing focused curtailment measures for the California condor, those measures will be implemented by the project proponent through operational adjustments approved by the reviewing agencies.

Due to the 30-year life of this project, and the anticipation that the Condor Recovery Program will continue to be successful, the risk of condor take would increase if the condor population increases, condor use areas change (i.e., moving closer to the project site), and/or if fewer individuals of the flock wore VHF-units. Each of these changes would result in an increase in risk. To be able to off-set this potential increase in risk, the following adaptive management strategy shall be implemented:

1. Change in condor use areas. If a condor is detected within the network detection perimeter more than once during a 30-day period or two or more times during a 60-day period, or if a condor has been detected near the project boundary several times (which will be defined in the Biological Opinion), the BLM, USFWS, and the project proponent shall enter into discussions regarding the circumstances of these detections to determine the appropriate action.

Potential circumstances include, but are not limited to: a) use of the area is increasing and a greater number of birds are flying within the area of risk; b) birds are entering the area more frequently, but at an altitude that does not place them in harm's way for collision with a turbine; c) bird use has shifted in proximity of the project site, but has already shifted away again; or, d) one bird is responsible for all of the on-site detections.

During discussions, the BLM and USFWS will determine whether reinitiation of Section 7 consultation is needed based on the new information on condor movement. Should reinitiation be determined the appropriate action, the BLM would complete a Section 7(d) analysis to determine what actions could occur during reinitiation. While the BLM is completing the Section 7(d) analysis, one of the two following measures would also be implemented:

a. Within 24 hours of notice from the BLM and/or USFWS, the project proponent shall deploy a full-time observer to supplement the VHF-detection system until the Section 7(d) analysis is complete, or should the 7(d) analysis propose this measure, until the reinitiation of consultation is complete

OR

b. Within 24 hours of notice from the BLM and/or USFWS, the project proponent shall deploy a proven alternative detection system (e.g., radar system that had been previously been tested and accepted by USFWS)

2. Change in percentage of population wearing VHF-units (short-term). During the first 5 years of the project, if the percentage of birds that are invisible to the detection system is exceeded by a pre-determined amount due to an unanticipated event (e.g., extreme weather prevents replacement of dying batteries, manufacturer fails to ship units), one of the following procedures shall be implemented:

   a. If the project proponent has already deployed a proven and approved alternative detection system that does not rely on birds being tagged for detection, no further action is needed.

   b. If the project proponent has not deployed the alternative detection system that does not rely on birds being tagged for detection, but has one that has been proven effective, it will be deployed within 24 hours notice by the BLM or USFWS, or,

   c. The project proponent shall deploy a full-time observer within 24 hours notice by the BLM or USFWS to supplement the VHF-detection system until the non-tagged birds are captured and refitted with VHF-units.

3. Change in percentage of population wearing VHF-units (long term). The project proponent shall develop and deploy an alternative

detection system that does not rely on any hardware to be affixed to condors. This system shall be incorporated into their "detect and curtail" strategy within the first 3 years of operation. USFWS would be responsible for maintaining VHF-birds at a pre-determined level for a maximum of 3 years. After such time, the USFWS, with a 60-day notice, could begin transitioning to sampling the population and would no longer be responsible for maintaining transmitters for a pre-determined percent of the flock. If the project proponent has not successfully identified another means to detect and curtail, the project would be out of compliance with the Biological Opinion, and reinitiation of the Section 7 consultation would be triggered. The BLM would conduct a Section 7(d) analysis to determine what actions could occur during reinitiation.

MM 4.21-10 Post-Construction Breeding Monitoring. Once the project is operational, the project proponent shall conduct *Post-Construction Breeding Monitoring* in the first, second, and third years following the initial operation of the project. Additional years of monitoring may be required by an appropriate Agency such as the United States Fish & Wildlife Service. The purpose of this monitoring would be to demonstrate whether sensitive resident birds are compatible with operation of wind turbine generators, and to show that the level of incidental injury and mortality does not result in a long-term decline in sensitive resident bird species in the region. Post-construction Breeding Monitoring shall include a Nesting Analysis that shall be conducted as follows:

1. The project proponent shall provide to the Kern County Planning and Community Development Department, the Bureau of Land Management, the California Department of Fish and Game, and the United States Fish and Wildlife Service the results of a study and comparative data analysis. A qualified ornithologist shall conduct the study of nesting raptors.
2. Nesting raptor surveys shall be conducted throughout the project site between February 15 and August 15.
3. Directed field surveys for nesting raptors shall be conducted during the breeding season by vehicle and on foot to determine the presence or absence of raptor nests, especially mid-sized to large raptor nests within suitable habitat areas.
4. If at the end of the second round of monitoring (three years following the initial operation of the project), the operation of wind turbine generators has been determined to result in a level of incidental injury and mortality to nesting birds that constitutes a significant adverse impact on a breeding population, the project proponent shall undertake supplemental compensatory measures to support regional conservation of migratory birds.
5. The results of the Nesting Analysis shall be made available to regional entities involved in research related to the conservation of nesting birds such as the Audubon Society.

MM 4.21-11 Post-Construction Avian and Bat Mortality Monitoring. Once the project is operational, the project proponent shall perform *Post-Construction Avian and Bat Mortality Monitoring* in the first, second, and third years following the initial

operation of the project to demonstrate the level of incidental injury and mortality to populations of avian or bat species in the vicinity of the project site. Additional years of monitoring may be required by an appropriate Agency such as the United States Fish & Wildlife Service. Post-Construction Avian and Bat Mortality Monitoring shall include a Mortality Analysis, which shall be conducted as follows:

1. The project proponent shall provide to the Kern County Planning and Community Development Department, the Bureau of Land Management, the California Department of Fish and Game, and the United States Fish and Wildlife Service the results of the mortality monitoring for avian and bat species on an annual basis. A qualified wildlife biologist shall conduct mortality monitoring using a statistically significant sample size of operational turbines within the wind energy development project.
2. The Mortality Monitoring Analysis shall note species number, location, and distance from the turbine for each recovered bird or bat, availability of bird and bat prey species, and apparent cause of avian or bat mortality. The project proponent shall provide all results to the Wildlife Response and Reporting System database within 90 days of completion of the annual study.
3. The Mortality Monitoring shall follow standardized guidelines outlined by the California Energy Commission and California Department of Fish and Game (CEC and CDFG, 2007) and the United States Fish and Wildlife Service (USFWS, 2010b) or more current guidance from the United States Fish and Wildlife Service, and shall include carcass scavenging and searcher efficiency trials.
4. At a minimum, the Mortality Monitoring Analysis shall consider four factors:
    a. Number of annual avian and bat mortalities per turbine,
    b. Disproportionate representation of a particular species, and
    c. Comparison to existing data on wind farm mortality.
    d. Comparison to existing data on wind farm mortality from the Tehachapi Wind Resource area and the western United States.
5. In addition to Mortality Monitoring described above, starting in year 1 of project operation and continuing for the life of the project, annual Post-Construction Mortality Monitoring for golden eagle shall be conducted by the project proponent, in conjunction with other monitoring, and submitted to the Kern County Planning and Community Development Department, the Bureau of Land Management, the United States Fish and Wildlife Service, and the California Department of Fish and Game.

MM 4.21-12 Supplemental Measures for Unanticipated Significant Impacts. After three years of *Post-Construction Avian and Bat Mortality Monitoring*, the project proponent shall consult with the Kern County Planning and Community Development Department, the Bureau of Land Management, the California Department of Fish and Game, and United States Fish and Wildlife Service, to determine if the project is resulting in unanticipated significant adverse impacts on the population of an avian or bat species or is significantly interfering with any migratory corridor. If this determination is made, the project proponent shall provide supplemental mitigation as determined by the Agencies listed above. In accordance with California Environmental Quality Act Guidelines Section 15065

and Appendix G, a significant impact shall be determined on a species-by-species basis according to the following criteria:

1. Cause an protected avian or bat species to drop below self-sustaining levels;
2. Threaten to eliminate a bat or avian community;
3. Substantially reduce the number or restrict the range of an endangered, rare or threatened species;
4. Substantially impair movement through any migratory corridor; or
5. Have a substantial adverse effect on any candidate, sensitive or special status avian or bat species.

Supplemental measures to be considered shall include:

1. Additional migration count surveys, conducted using a methodology that allows comparison with the baseline surveys conducted in 2010/2011.
2. Provision of additional nesting structures or platforms.
3. Contribution to research that addresses the sources of mortality and population impacts on the species of concern.
4. Funding of regional conservation measures with the intent of enhancing and preserving existing foraging and nesting habitat in an amount not to exceed the value of acreage representing the project's rotor swept area based on installed turbines.

MM 4.21-13 **Avian Power Line Interaction Committee Standards.** Prior to issuance of approval for final occupancy by Kern County, the project proponent shall submit written documentation to the Bureau of Land Management and Kern County Planning and Community Development Department demonstrating that all power lines are engineered and constructed to the most current Avian Power Line Interaction Committee standards, at the time the lines are engineered ~~of construction~~. The project proponent shall conform to the latest practices to protect birds from electrocution and collision on the transmission line (as outlined in the 2006 Avian Power Line Interaction Committee standards or newer guidance, as applicable).

MM 4.21-14 **Post-Construction Condor Monitoring.** Condor observations made within the project area and identified buffer must be reported to Kern County, BLM, USFWS, and CDFG within 24 hours of the observation. Behavior of the birds, meteorological conditions at the time, and any subsequent curtailment must be reported. Additionally, all such individual reports shall also be provided in quarterly reports on condor activity to the BLM and Kern County Planning and Community Development Department for the term of the grant. The reports shall include all condor sightings, conditions at the time condors are within the project area (e.g. time, duration, temperature, wind speed, and direction), curtailments, duration of curtailments, and number of turbines affected. In the event of take (including harassment or harm) of California condor beyond the habitat removal authorized in the project's Biological Opinion, the project proponent shall

1) Within 24 hours, the holder shall notify the BLM authorized officer, the USFWS, and the Kern County Planning and Development Department.

2) If take in the form of harassment occurs, all turbines shall be restricted to nighttime operations only, curtailing daylight operations for two weeks.

3) Continuous daylight observations shall be made for the two-week curtailment period.

4) After the two-week period, the project proponent shall provide reports (including condor observations and meteorological conditions) to the BLM, USFWS, and Kern County Planning and Development Department.

5) The BLM and the USFWS and CDFG shall determine if conditions of increased risk to condors continue to exist, and therefore nighttime-only operations should continue, or if the conditions have changed such that risk to condors is again low and daylight operations may resume.

6) Steps 3, 4, and 5 will continue until such time that daylight operations have been allowed to resume.

In the event of a condor mortality the applicant shall:

1) Immediately cease all turbine operations.

2) Notify the BLM authorized officer, USFWS, CDFG, and the Kern County Planning and Community Development Department.

3) In preparation for reinitiation of formal Endangered Species Act consultation for the project, submit a plan for review and approval to the BLM, the USFWS, and CDFG along with the Kern County Planning and Development Department for developing and implementing additional specific condor avoidance and minimization measures including, but not limited to, radar and telemetry curtailment measures. Turbine operations shall not resume until reinitiated Section 7 consultation is complete and a revised project Biological Opinion is issued.

4.21.12 Residual Impacts After Mitigation

Implementation of the avoidance, minimization, and mitigation measures described in Section 4.21 would mitigate the direct and indirect impacts to wildlife resources on the AEWP site. Some of the mitigation measures presented in this section would mitigate adverse impacts to wildlife resources by minimizing or preventing the impacts from occurring. For example, 4.21-1 (Wildlife Impact Avoidance and Minimization) would minimize adverse impacts to wildlife to the extent feasible through measures such as limiting disturbance areas and fencing, maintain a 15 miles-per-hour speed limit on access roads, requiring monitoring during all soil and vegetation disturbance, and minimizing construction lighting. Mitigation Measure 4.2-1 (Construction fugitive dust emission reduction) and 4.2-3 (Operation fugitive dust and equipment emission reduction) includes dust minimization measures; and 4.21-3 (Pre-Construction Surveys and Minimization Measures for Special-Status Wildlife and Nesting Birds) would avoid or prevent destruction of active birds' nests, including eggs and nestling birds. Mitigation Measures 4.21-9 (Minimize Avian and Bat Turbine Strikes) and 4.21-19 (Post-Construction Condor Monitoring) require curtailment of turbine operations in the even that California condors approach the AEWP. Other mitigation measures would offset project impacts. 4.17-1 (Habitat Restoration and Revegetation Plan) requires acquisition and management of offsite vegetation

and habitat in perpetuity to offset the permanent loss of vegetation and habitat on the project site. This measure, although compensating for impacts to wildlife habitat, would not prevent those impacts from occurring. Implementation of the mitigation that requires habitat restoration/revegetation would require some ground disturbance, but it would occur in areas that were previously disturbed during AEWP construction. Similar restrictions to those placed on construction, O&M, and decommissioning activities would be placed on activities associated with the restoration/revegetation. The restrictions would be included in the Habitat Restoration and Revegetation Plan to effectively avoid or minimize impacts to special-status species.

With the implementation of Mitigation Measures 4.21-1 through 4.21-13, 4.17-1 and 4.17-5, 4.2-1, 4.2-3, 4.18-1, and 4.18-4, the residual impacts to wildlife resources would be:

1. The net loss of habitat on the project site for the duration of AEWP O&M and for some period after ultimate site restoration after decommissioning;
2. The fragmentation and impaired connectivity of wildlife habitat over the life of the AEWP ~~in the upper Chuckwalla Valley~~;
3. The effects of noise, lighting, dust, and other disturbances to adjacent offsite habitat during construction, O&M, and decommissioning;
4. The effects to displaced wildlife (finding and establishing new home ranges, intra- and/or interspecific competition for food and other resources, etc.); and
5. The potential, but unquantified loss of birds during AEWP O&M.

These impacts are described above in Section 4.21.3.

Under CEQA, implementation of the avoidance, minimization, and mitigation measures would mitigate impacts to most wildlife resources to a level below significance. Implementation of the required mitigation would not result in any additional impacts to wildlife resources. No significant residual impacts to most wildlife resources would occur with the implementation of the avoidance, minimization, and mitigation measures. However, although implementation of the measures described above would reduce the potential for special-status birds and bats to collide with WTGs during operation of the AEWP, these measures cannot eliminate the potential for such mortality to occur. Because some level of avian and bat mortality would occur, this impact would remain significant under CEQA.

Finally, without mitigation, the AEWP would contribute to the cumulatively substantial losses of wildlife resources within the western Mojave Desert and eastern Kern ~~TWRA~~. The avoidance and minimization measures as well as compensatory mitigation to offset direct, indirect, and cumulative impacts to wildlife resources would assure compliance with state and federal laws, and the impacts would have no substantial adverse effects following mitigation for most resources. However, as explained above, cumulative impacts related to avian and bat collisions with WTGs would remain adverse, and would be significant and unavoidable under CEQA.

4.22 Irreversible and Irretrievable Commitment of Resources

The BLM NEPA Handbook (H-1790-1 Sec. 9.2.9), the NEPA Guidelines (40 CFR 1502.16), and CEQA Guidelines Section 15126.2 require a discussion of any irreversible or irretrievable commitments of resources which would be caused by implementation of the proposed AEWP, or one of the action alternatives; the relationship between short-term uses and long-term productivity of the environment; and any growth-inducing impacts.

Resources irreversibly or irretrievably committed to a proposed action are those used on a long-term or permanent basis. This includes the use of nonrenewable resources such as metal, wood, fuel, paper, aggregate and other natural resources. These resources are considered irretrievable in that they would be used for a proposed action when they could have been conserved or used for other purposes. Another irreversible or irretrievable commitment of resources is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

The AEWP would irretrievably commit resources over the 30-year life of the project. Construction of the proposed AEWP would require use of nonrenewable resources. During operations, oil, gas, and other nonrenewable resources would be consumed for maintenance purposes, although on a limited basis. After 30 years, the AEWP could be decommissioned and the land returned to its pre-project state, or the facility owners may wish to work with the BLM to replace the old facilities with a new re-powering project on the same site. In the event that the AEWP is decommissioned, potentially some of the resources on site could be retrieved. However, full site recovery to its pre-project state may not be possible given the 30-year life-span of the AEWP and the many unknown variables that could affect the site. Joshua tree woodland and sensitive desert habitats have potentially lengthy recovery time from disturbances such as development. Currently, the AEWP site is not entirely undisturbed because it has been previously disturbed for grazing, agricultural uses, or off-highway vehicle use.

The AEWP is a renewable energy project intended to generate wind energy to reduce reliance on fossil fuels. Over the 30-year life of the AEWP, this renewable energy project would contribute incrementally to the reduction in demand for fossil fuel used to generate electricity, thereby resulting in a positive effect of the commitment of nonrenewable resources to the AEWP.

4.23 Short-Term Uses of Man's Environment and the Maintenance/Enhancement of Long-Term Productivity

The BLM NEPA Handbook (H-1790-1 Sec. 9.2.9) and the NEPA Guidelines (40 CFR 1502.16) require a discussion of the relationship between short-term uses and long-term productivity of the environment from implementation of the proposed AEWP or one of the action alternatives. "Short term" refers to the total duration of project construction. "Long term" refers to an indefinite period beyond the construction of the project. The specific impacts of the AEWP vary in kind, intensity, and duration. The project involves tradeoffs between long-term productivity and short-term uses of the environment.

The development of AEWP and its built alternatives would result in short-term uses of the environment typically found with wind energy development. Short-term impacts associated with construction activities are described in Chapter 4, Environmental Consequences, and include effects to the natural environment, cultural resources, and recreation resources. These can be compared to the long-term benefits of the AEWP and its built alternatives, the production of clean, renewable energy. This benefit would be consistent with Federal and State goals to increase production of renewable energy and help reduce dependence on fossil fuels.

As discussed earlier in Section 4.22, Irreversible and Irretrievable Commitment of Resources, the AEWP and alternatives could permanently damage sensitive woodland and desert habitats, adversely affecting the long-term productivity of the area. However, these action alternatives would provide a long-term benefit by generating electric power without the use of non-renewable resources which would result in a benefit to air quality and a reduction in carbon-based emissions.

4.24 Growth-Inducing Impacts

The BLM NEPA Handbook (H-1790-1 Sec. 9.2.9), the NEPA Guidelines (40 CFR 1502.16), and CEQA Guidelines Section 15126.2 require a discussion of any growth-inducing impacts caused by implementation of the proposed AEWP or one of the action alternatives.

CEQA Section 15126.2(d), Growth-Inducing Impacts of the Proposed Project, requires a discussion of the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. NEPA Regulations also provide for discussing the growth-inducing effects of a project. (40 C.F.R. § 1508.8(b) ["… Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."].) The discussion must additionally address how a project may remove obstacles to growth, or encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if a project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies. Increased development and growth in an area depend on a variety of factors, including employment and other opportunities, availability of developable land, and availability of infrastructure, water, and power resources.

As discussed in Section 4.13 (Social and Economic Issues), the Proposed Action (Alternative A) or action alternatives would draw both construction and operational labor primarily from Kern County, which provides a sufficient supply of labor for the project. Therefore, both AEWP temporary construction and permanent operational employees are expected to reside within the region. While some construction workforce may choose to stay immediately proximate to the AEWP site during the week, it is not anticipated that workers would permanently relocate locally for temporary construction employment. It is assumed that some operational workers may permanently relocate to be closer to the AEWP area, with the Bakersfield Metropolitan Statistical Area region assumed to be the likely residing place for such relocations. Assuming a worst-case scenario of all 15 full-time and part-time workers relocating locally (including an assumed average family size of three persons per household), these relocations would only account for a minimal increase to the existing population (refer to Table 3.13-3). This worst-case potential local area relocation is considered negligible and is anticipated to be within forecasted growth projections of the area. Furthermore, as shown in Table 3.13-2, both the City of Tehachapi and the City of Bakersfield have ample available housing for any operational workers who may choose local permanent relocation to the AEWP region. Therefore, employment associated with the AEWP is not considered to generate an adverse direct growth-inducing impact.

With respect to inducing growth through removing barriers to development, such as changing land use designations or providing utilities to previously undeveloped areas, as discussed in Section 4.6 (Lands and Realty), the AEWP and alternatives would not result in the conversion of any land to residential or commercial use. Therefore, the proposed AEWP and alternatives would not involve the development of additional housing or alter land designations that could result in direct population growth. As described in Chapter 2 (Proposed Action and Alternatives), the AEWP would include the construction of 34.5-kV circuits connecting into a 230/34.5-kV transformer and substation located on the proposed AEWP site. These transmission interconnections serve only to connect electricity generated by the AEWP to the transmission grid, and would not be located on and adjacent to land designated for residential or commercial development. Therefore, proposed transmission line facilities associated with the AEWP would not induce growth.

With respect to inducing growth through providing access to previously undeveloped areas, the proposed AEWP would involve construction of permanent service roads. However, as discussed in Section 4.16 (Transportation and Public Access), these roads would provide access to the proposed AEWP site only, and from the AEWP site entrances to substations and wind turbine generators. Project roadways would not provide access into adjacent areas that would potentially lead to residential or commercial development. Following completion of construction, the temporarily widened portions of these roads would be restored, leaving 20- to 24-foot-wide permanent maintenance roads. Therefore, roadway facilities associated with the proposed AEWP would not induce growth.

The proposed AEWP would result in additional generation of electric power in central California. However, the Project would serve projected growth of the region while working toward achieving the goals of AB 32. Growth within the region is forecasted to continue with or without implementation of the proposed AEWP. Therefore, implementation of the proposed AEWP would be in response to anticipated future load growth and would be consistent with current regional planning projections.

In *Kerncrest Audubon Society v. Los Angeles Department of Water and Power*, the analysis of growth-inducing effects contained in the EIR for the Pine Tree Wind Development Project was challenged. Plaintiffs argued that the discussion was too cursory to provide adequate information about how additional electricity generated by the project would sustain further growth in the Los Angeles area. The court held that the additional electricity that the project would produce was intended to meet the current forecast of growth in the Los Angeles area. As such, the wind development project would not cause growth, and so it was not reasonable to require a detailed analysis of growth-inducing impacts. In addition, EIRs for similar energy projects have contained similarly detailed analyses of growth-inducing impacts. Their conclusions that increasing the energy supply would not create growth has been upheld, because: (1) the additional energy would be used to ease the burdens of meeting existing energy demands within and beyond the area of the project; (2) the energy would be used to support already-projected growth; or (3) the factors affecting growth are so multifarious that any potential connection between additional energy production and growth would necessarily be too speculative and tenuous to merit extensive analysis. Thus, as has been upheld in the courts, this level of analysis is sufficient to inform the public and decision makers of the growth-inducing impacts of the project.

4.25 Consequences and Other CEQA Statutory Requirements

4.25.1 Impacts Found to be Less than Significance

Section 15128 of the State California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."

Kern County has engaged the public in the scoping of the environmental document. Comments received during scoping have been considered in the process of identifying issue areas that should receive attention in this Proposed PA & Final EIS/EIR. The contents of this Proposed PA & Final EIS/EIR were established based on an Initial Study (IS)/Notice of Preparation (NOP) prepared in accordance with the County's CEQA Implementation Document and Environmental Checklist and on public and agency input received during the scoping process. Issues that were found to have no impact or less-than-significant impacts during preparation of the IS/NOP do not need to be addressed further in this Proposed PA & Final EIS/EIR. Based on the findings of the NOP and the results of scoping, a determination was made that the Proposed PA & Final EIS/EIR must contain a comprehensive analysis of all environmental issues identified in the County's CEQA Implementation Document and Environmental Checklist.

After further study and environmental review in this Proposed PA & Final EIS/EIR, direct and indirect impacts of the proposed project (not including cumulative impacts) would be less than significant or could be reduced to less-than-significant levels with mitigation measures for the following issue areas:

- Climate Change and Greenhouse Gases;
- Cultural Resources;
- Environmental Justice (NEPA only);
- Lands and Realty;
- Livestock and Grazing (NEPA only)
- Mineral Resources
- Noise;
- Multiple-Use Classes (NEPA only);
- Paleontological Resources;
- Public Health and Safety;
- Recreation;
- Social and Economic Issues;
- Geology and Soil Resources;
- Special Designations and Agriculture;
- Transportation and Public Access;
- Water Resources; and
- Wildland Fire Ecology

4.25.2 Significant and Unavoidable Impacts

Section 15126.2(b) of the State CEQA Guidelines requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. Potential environmental effects of the proposed project and proposed mitigation measures are discussed in detail in Chapter 4 of this Proposed Plan Amendment Final EIS/EIR.

Project-related impacts in the following areas would be significant and unavoidable, even after incorporation of feasible mitigation measures to reduce impacts to the extent feasible:

- Air Resources (Air Quality);
- Noise;
- Visual Resources (Aesthetics);
- Wildlife Resources (Biological Resources).

Cumulative impacts in the following areas would be significant and unavoidable, even after incorporation of feasible mitigation measures to reduce impacts to the extent feasible:

- Air Resources (Air Quality);
- Noise;
- Vegetation Resources (Biological Resources);
- Visual Resources (Aesthetics);
- Wildlife Resources (Biological Resources).

The significant and unavoidable impacts can be summarized as follows:

Table 4.25-1. Summary of Significant Impacts of the Project

Resources	Project Impacts	Cumulative Impacts
Visual Resources (Aesthetics)	Although mitigation measures would reduce effects of light and glare, impacts to nighttime views would remain significant and unavoidable as a result of FAA-required strobe warning lights. The project would result in significant changes to the visual environment that may result in potentially adverse effects on visual quality throughout the project area. Impacts would therefore be significant and unavoidable.	Several wind generation facilities with features similar to those of the Project would be constructed within the Project's viewshed. However, as the Project would be creating additional views to hardscape features in a relatively natural landscape, the Project's cumulative contribution after implementation of the recommended mitigation measures would remain cumulatively significant and unavoidable as a result of these changes in character/quality. The project would result in significant changes to the visual environment that may result in potentially adverse effects on visual quality throughout the project area, particularly in combination with other wind generation facilities. Impacts would therefore be cumulatively significant and unavoidable. Although mitigation measures would reduce effects of light and glare, impacts to nighttime views, particularly in combination with other wind generation facilities would remain cumulatively significant and unavoidable as a result of FAA-required strobe warning lights.
Air Quality (Air Quality)	PM_{10} and NO_X emissions during construction would result in temporary increases above the established thresholds. Even with mitigation measures, temporary (construction) impacts are considered significant and unavoidable.	Annual NO_X and PM_{10} emissions during construction would result in temporary significant impacts. Therefore, the annual NOx and PM_{10} emissions during construction (although temporary) are considered cumulatively significant and unavoidable.
Noise	Implementation of construction noise BMPs and mitigation measures would reduce construction noise impacts, such that on-site construction noise would be reduced. However, construction noise and vibration would fall within the range of distinctly perceptible and just below the range of strongly perceptible. Therefore, temporary construction impacts may result in a temporary increase in ambient noise and vibration levels above levels existing without the project and impacts would be temporarily significant and unavoidable.	Groundborne vibration and noise from construction activities is highly localized and not expected to reach beyond the AEWP site. However, construction vibration would fall within the range of distinctly perceptible and just below the range of strongly perceptible. Therefore, construction impacts may result in a temporary increase in noise vibration levels above levels existing without the AEWP and impacts would be temporarily, but cumulatively significant and unavoidable if adjacent wind projects resulted in construction vibration to shared receptors with the AEWP.
Vegetation and Wildlife Resources (Biological Resources)	Project operational impacts would remain significant and unavoidable for bird and bat species, including special status species, due to potential collision with WTGs.	When considered cumulatively, avian and bat mortality due to collisions with WTGs and associated infrastructure, as well as terrestrial plants, including special status species, would be significant and unavoidable. In addition, wildlife movement would be disrupted during construction due to avoidance of construction activities and temporary barriers to movement such as fencing. Therefore, avian, bat, terrestrial plant species, and wildlife movement impacts of the Project, when combined with impacts of past, present, and reasonably foreseeable projects, are considered cumulatively significant and unavoidable.

4.25.3 Energy Conservation

In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code section 21100(b)(3)). According to Appendix F of the State CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy including: (1) decreasing overall per capita energy consumption; (2) decreasing reliance on natural gas and oil; and (3) increasing reliance on renewable energy sources.

The Project itself would help achieve this goal because it would develop a renewable source of power, helping to offset the use of nonrenewable resources and contribute to an overall reduction of nonrenewable resources currently used to generate electricity. In addition, Section 4.3 (Climate Change) describes effects on greenhouse gas emissions that would be caused by implementation of the proposed project.

Compliance with all applicable building codes, as well as with County policies and proposed measures and mitigation measures identified in this EIS/EIR, would ensure that energy is conserved to the maximum extent possible.

As discussed above in Section 4.22, resources that would be consumed as a result of Project implementation include metal, wood, fuel, paper, aggregate, and other natural resources during construction and operation. Additionally, construction would require the manufacture of new materials, some of which would not be recyclable at the end of the Project's lifetime, and the energy required for the production of these materials would also result in an irretrievable commitment of natural resources. The anticipated equipment, vehicles, and materials required for construction of the Project are detailed in Chapter 2 (Proposed Action and Alternatives). However, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. Compliance with all applicable building codes, as well as County policies and the mitigation measures identified in this Proposed PA & Final EIS/EIR would ensure that all natural resources are conserved to the maximum extent possible.

No increases in inefficiencies or unnecessary energy consumption are expected to occur as a direct or indirect consequence of the Project. No mitigation measures above those already present in this Proposed PA & Final EIS/EIR would be necessary.

4.25.4 Key to CEQA Impacts

Table 4.25-2, CEQA Impact Key -- Alta East Wind Energy Project FEIS/FEIR, provides a listing, by topic, of the impacts analyzed in the Final EIS/EIR, and for each project component (Construction, Operation, and Decommissioning) provides the CEQA impact conclusion (No Impact, Less than Significant, or Significant and Unavoidable) for both project impacts as well as for cumulative impacts associated with Alternative A: Project.

Table 4.25-2 CEQA Impact Key Alta East Wind Energy Project FEIR/FEIS					
Section No.	**Topic**	**Impact No.**	**Description**	**Project Impact (Alt. A Only)**	**Cumulative Impact (Alt A Only)**
				C = Construction; **O** = Operation; **D** = Decommissioning **NI** = No Impact; **LTS** = Less than Sig; **SU** = Significant and Unavoidable	
4.2	**Air Resources**	AR-1	Conflict with or obstruct implementation of the applicable air quality plan	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		AR-2	Violate any air quality standard as adopted in (c) i, (c) ii, or as established by EPA or air district or contribute substantially to an existing or projected air quality violation;	**C: SU** (Temp)	**C: SU**
				O: LTS	O: LTS
				D: LTS	D: LTS
		AR-3	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).	**C: SU** (Temp)	**C: SU**
				O: LTS	**O: SU**
				D: LTS	**D: SU**
		AR-4	Expose sensitive receptors to substantial pollutant concentrations;	**C: SU** (Temp)	**C: SU**
				O: LTS	O: LTS
				D: LTS	D: LTS
		AR-5	Create objectionable odors affecting a substantial number of people.	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
4.3	**Climate Change & Greenhouse Gases**	GH-1	Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or,	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		GH-2	Conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
4.4	**Cultural Resources**	CR-1	Cause a substantial adverse change in the significance of a historical resource, as defined in State CEQA Guidelines Section 15064.5;	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		CR-2	Cause a substantial adverse change in the significance of an archaeological resource, pursuant to State CEQA Guidelines Section 15064.5; or,	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		CR-3	Disturb any human remains, including those interred outside of formal cemeteries.	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS

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				C = Construction; **O** = Operation; **D** = Decommissioning **NI** = No Impact; **LTS** = Less than Sig; **SU** = Significant and Unavoidable	
4.5	**Environmental Justice**	*N/A*	*No CEQA Thresholds for this topic.*	*N/A*	*N/A*
4.6	**Lands and Realty *(Land Use)***	LA-1	Physically divide an established community;	*Impact scoped out of document.*	
		LA-2	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or,	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		LA-3	Conflict with any applicable habitat conservation plan or natural community conservation plan.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
4.7	**Livestock Grazing**	*N/A*	*No CEQA Thresholds for this topic.*	*N/A*	*N/A*
4.8	**Mineral Resources**	MI-1	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State;	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		MI-2	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
4.9	**Noise**	NS-1	Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies;	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		NS-2	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;	**C: SU (Temp)** O: LTS D: LTS	**C**: **SU** (Temp) O: LTS D: LTS
		NS-3	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS

Table 4.25-2 CEQA Impact Key Alta East Wind Energy Project FEIR/FEIS					
Section No.	**Topic**	**Impact No.**	**Description**	**Project Impact (Alt. A Only)**	**Cumulative Impact (Alt A Only)**
				C = Construction; **O** = Operation; **D** = Decommissioning **NI** = No Impact; **LTS** = Less than Sig; **SU** = Significant and Unavoidable	
		NS-4	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;	**C: SU (Temp)** O: LTS D: LTS	**C: SU** (Temp) O: LTS D: LTS
		NS-5 NS-6	NS-5: For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels; NS-6: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.	*Impact scoped out of document.*	
4.10	**Paleontological Resources** ***(Cultural, Part 2)***	Paleo-1	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	C: LTS O: LTS D: NI	C: LTS O: LTS D: LTS
4.11	**Public Health and Safety** ***(Hazards and Public Services)***	PH-1	For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-2	For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard to people that may reside or work within the vicinity of the project.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-3	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-4	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment;	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-5	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS

Table 4.25-2 CEQA Impact Key Alta East Wind Energy Project FEIR/FEIS					
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				C = Construction; **O** = Operation; **D** = Decommissioning **NI** = No Impact; **LTS** = Less than Sig; **SU** = Significant and Unavoidable	
		PH-6	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the Cortese List of underground leaking storage tanks) and, as a result, would it create a significant hazard to the public or the environment.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-7	Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-8	Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection, Police protection, Schools, Parks, and other public facilities.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-9	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-10	Comply with federal, state, and local statutes and regulations related to solid waste.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		PH-11	Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste. Specifically, would the project exceed the following qualitative threshold: Would the presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors: i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and, ii. Are associated with design, layout, and management of project operations; and, iii. Disseminate widely from the property; and, iv. Cause detrimental effects on the public health or wellbeing of the majority of the surrounding population.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
4.12	**Recreation**	RC-1	Increase the use of existing neighborhood and regional parks or other recreational facilities such that the physical deterioration of the facility would occur or be accelerated; or	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS

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		RC-2	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	*Impact scoped out of document.*	
4.13	**Social and Economic Issues *(Population and Housing)***	SOC-1	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		SOC-2	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or	*Impact scoped out of document.*	
		SOC-3	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.	*Impact scoped out of document.*	
4.14	**Geology and Soil Resources**	SO-1	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.; ii. Strong seismic ground shaking; iii. Seismic-related ground failure, including liquefaction; or, iv. Landslides;	C: LTS O: LTS D: NI	C: NI O: NI D: NI
		SO-2	Result in substantial soil erosion or the loss of topsoil;	C: LTS O: LTS D: LTS	C: LTS O: NI D: LTS
		SO-3	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;	C: LTS O: LTS D: NI	C: NI O: NI D: NI
		SO-4	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;	C: LTS O: LTS D: NI	C: NI O: NI D: NI
		SO-5	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	C: NI O: LTS D: NI	C: NI O: NI D: NI

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4.15	**Special Designations & *Agriculture***	SD-1	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		SD-2	Conflict with existing zoning for agricultural use or a Williamson Act Contract.	C: LTS O: LTS D: LTS	C: NI O: NI D: NI
		SD-3	Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		SD-4	Result in the loss of forestland or conversion of forestland to non-forest use.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		SD-5	Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use.	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		SD-6	Result in the cancellation to an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code).	C: NI O: NI D: NI	C: NI O: NI D: NI
4.16	**Transportation and Public Access**	TR-1	Conflict with an applicable plan, ordinance,, or policy establishing measures of effectiveness for the performance of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		TR-2	Conflict with an applicable congestion management program, including, but not limited to exceeding, a Level of Service (LOS) standard or other standards established by the county congestion management agency or adopted County threshold for designated roads or highways. i. Metropolitan Bakersfield General Plan LOS "C" ii. Kern County General Plan LOS "D."	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		TR-3	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks	C: LTS O: LTS D: LTS	C: LTS O: LTS D: LTS
		TR-4	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment)	C: LTS O: LTS	C: LTS O: LTS

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				D: LTS	D: LTS
		TR-5	Result in inadequate emergency access	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		TR-6	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
4.17	**Vegetation Resources *(Biota 1 of 2)***	VG-1	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service;	C: LTS	**C: SU**
				O: LTS	**O: SU**
				D: LTS	**D: SU**
		VG-2	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service	C: LTS	**C: SU**
				O: LTS	**O: SU**
				D: LTS	**D: SU**
		VG-3	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;	*Impact scoped out of document.*	
		VG-4	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		VG-5	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	*Impact scoped out of document.*	
4.18	**Visual Resources *(Aesthetics)***	VIS-1	Have a substantial adverse effect on a scenic vista.	C: LTS	**C: SU**
				O: LTS	**O: SU**
				D: LTS	**D: SU**
		VIS-2	Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within view of a State Scenic Highway.	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		VIS-3	Substantially degrade the existing visual character or quality of the site and its surroundings.	**C: SU**	**C: SU**
				O: SU	**O: SU**

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				D: SU	**D: SU**
		VIS-4	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	**C: SU**	**C: SU**
				O: SU	**O: SU**
				D: SU	**D: SU**
4.19	**Water Resources *(Hydrology)***	WA-1	Violate any water quality standards or waste discharge requirements;	C: LTS	C: NI
				O: LTS	O: NI
				D: LTS	D: LTS
		WA-2	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed	C: LTS	C: NI
				O: LTS	O: LTS
				D: LTS	D: NI
		WA-3	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on site or off site;	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		WA-4	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on site or off site;	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
		WA-5	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;	C: LTS	C: NI
				O: LTS	O: LTS
				D: LTS	D: LTS
		WA-6	Otherwise substantially degrade water quality;	C: NI	C: NI
				O: NI	O: LTS
				D: NI	D: LTS
		WA-7	Place housing within a 100 year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;	*Impact scoped out of document.*	
		WA-8	Place within a 100 year flood hazard area structures which would impede or redirect flood flows;	C: LTS	C: NI
				O: LTS	O: LTS
				D: LTS	D: LTS

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		WA-9	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam;	*Impact scoped out of document.*	
		WA-10	Contribute to inundation by seiche, tsunami, or mudflow.	C: LTS	C: NI
				O: LTS	O: LTS
				D: LTS	D: LTS
		WA-11	Adversely affect existing or planned wastewater treatment systems or requirements, including through the following: Exceed wastewater treatment requirements of the applicable Water Quality Control Board; Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed; and/or Result in a determination by the applicable wastewater treatment provider that serves or may serve the project that adequate capacity is available to serve the project's projected demand in addition to the provider's existing commitments.	C: LTS	C: NI
				O: LTS	O: NI
				D: NI	D: NI
4.20	**Wildland Fire Ecology** ***(Hazards)***	WF-1	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are inter-mixed with wildlands.	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS
4.21	**Wildlife Resources** ***(Biota 2 of 2)***	WL-1	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service.	C: LTS	**C: SU**
				O: SU	**O: SU**
				D: LTS	**D: SU**
		WL-2	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	C: LTS	**C: SU**
				O: LTS	**O: SU**
				D: LTS	**D: SU**
		WL-3	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	C: LTS	C: LTS
				O: LTS	O: LTS
				D: LTS	D: LTS

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		WL-4	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	*Impact scoped out of document.*	

5. Consultation, Coordination, and Public Involvement

5.1 Interrelationships

The applicable authorities and guidance relevant to the BLM's review of the Alta East Wind Project (AEWP) includes the Federal Land Policy and Management Act (FLPMA) [43 United States Code (U.S.C.) 1701 et seq.], Section 211 of the Energy Policy Act of 2005 (EPAct 05) (119 Stat. 594, 600), and BLM's Wind Energy Development Policy of December 19, 2008. The FLPMA authorizes BLM to issue right-of-way (ROW) grants for renewable energy projects. Section 211 of EPAct 05 states that the Secretary of the Interior should seek to have approved a minimum of 10,000 megawatts of renewable energy generating capacity on public lands by 2015.

5.1.1 Department of Defense

The BLM coordinates with the Department of Defense (DoD) prior to approval of ROWs for renewable energy, utility, and communication facilities to ensure that these facilities would not interfere with military training routes around Edward Air Force Base, Naval Air Weapons Station China Lake and restricted area R-2508. On August 4, 2011, the BLM received correspondence from the DoD Siting Clearinghouse stating that it confirmed that the entire Project would fall within the Kern County "yellow" area, and that turbines below 500 feet in height would create little to no additional mission impact beyond that from the existing turbines in the Tehachapi area. The maximum height for the turbines proposed for the AEWP would be 465 feet.

5.1.2 U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (ACOE) has jurisdiction to protect the aquatic ecosystem, including water quality and wetland resources under Section 404 of the Clean Water Act. Under that authority, the ACOE regulates the discharge of dredged or fill material into waters of the U.S., including wetlands, by reviewing proposed projects to determine whether they may impact such resources and, thereby, are subject to Section 404's permit requirement. Throughout the Final Plan Amendment (PA) & Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) process, the BLM has provided information to the ACOE to assist the agency in making a determination regarding its jurisdiction and need for a Section 404 permit. The ACOE has determined that they do not have jurisdiction and therefore, there is no need for a Section 404 permit.

5.1.3 California Department of Fish and Game

The CDFG protects fish and aquatic habitats within the State through regulation of modifications to streambeds, under Section 1602 of the Fish and Game Code. The BLM and the Project Proponent have provided information to CDFG to assist the agency in its determination of the impacts to streambeds, and identification of permit and mitigation requirements. The Project Proponent will file a Streambed Alteration Agreement with CDFG. CDFG also has the authority to regulate potential impacts to species that are protected under the CESA (Fish and Game Code Section 2050, et seq.). The Project Proponent has indicated that it will file the appropriate notice, incidental take permit application, or request for memorandum of understanding, as appropriate based on potential impacts associated with the proposed AEWP.

5.1.4 California Department of Transportation

The California Department of Transportation (Caltrans) has jurisdiction over encroachments to Caltrans facilities and related easements and ROWs. The Project could access SR 58 via the West-end Business Route 58 ramps and SR 14 via Oak Creek Road Bridge/Mono Street intersection, and Caltrans requested

the preparation of a Construction Traffic Plan analyzing adequacy of the locations to be used. Also, an encroachment permit would be required for the service line under SR 58 and the railroad. In general, the Project Proponent will be responsible for obtaining oversized vehicles permits, ensuring that any damage done to public roadways is repaired to pre-construction phase conditions, and for complying with all relevant Caltrans requirements.

Caltrans was also concerned about operational phase traffic safety on SR 58 and requested that the Proposed PA and Final EIS/EIR address possible turbine malfunction, which could cause components to fall into State highway ROW, and consider a turbine offset distance from the highway, incident prevention via turbine inspection/maintenance and liability. Mitigation measures addressing these traffic safety issues are described in the Public Health and Safety (Section 4.11) and Transportation and Public Access (Section 4.16) of this document.

Discussions between the Project Proponent, the BLM and the CDFG are currently ongoing.

5.1.5 California Public Utilities Commission

The California Public Utilities Commission (CPUC) has jurisdiction over the safety of highway-rail crossings in California and requires CPUC approval for the construction or alteration of crossings and grants the CPUC exclusive power on the design, alteration, and closure of crossings. The AEWP would have an access road crossing the Union Pacific Railroad (UPRR) mainline tracks. Additionally, the CPUC is concerned about vehicle trips generated by construction workers traveling to the site and road trips generated from the delivery of construction equipment and materials with oversized vehicles traveling at slower speeds across UPRR's crossing.

The AEWP would comply with all requirements of the CPUC. Mitigation measures addressing the relevant safety issues of the Project's crossing impacts are described in the Public Health and Safety (Section 4.11) and Transportation and Public Access (Section 4.16) of this document.

5.1.6 California Regional Water Quality Control Board, Lahontan Region

Under California law, all groundwater and surface waters are considered waters of the State. The project is located in the southwestern portion of the South Lahontan Hydrologic Region. California law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Project components may involve alteration, dredging, filling and/or excavating activities in waters of the State. Such activities constitute a discharge of waste, as defined in California Water Code, section 13050 and could affect the quality of waters of the State. Therefore, any excavation or fill placement within waters of the State may require authorization under waste discharge requirements to be issued by the Lahontan Regional Water Quality Control Board. The Project Proponent will comply with all applicable water quality standards and prohibitions, including provisions in the Basin Plan, for implementation of the Project. For construction projects having small dredge/fill impacts to non-federal waters of the State, and that are not required to obtain a National Pollutant Discharge Elimination System (NPDES) permit (i.e., the General Construction Permit adopted by the State Board), coverage under general WDRs may be obtained from the Lahontan RWQCB (R6T-2003-0004). Discharges of fill into waters of the State have been authorized under these WDRs for other wind energy projects in the project vicinity.

5.1.7 Eastern Kern Air Pollution Control District

The Project is located within the jurisdiction of the Eastern Kern Air Pollution Control District (APCD), which reviews the plans and specifications for construction in the Project area. The Eastern Kern APCD would assess emissions and possible air contamination resulting from construction and operational activities (e.g., road dust, windblown contaminants, and emissions from construction activities).

5.1.8 Kern County

The County of Kern (County) would need to issue discretionary approvals for the construction of certain components of the Project located within the County's jurisdiction. The Project Proponent is requesting: (a) a change in zone classification from the E (20) (Estate 20 acres) District and the A-1 (Limited Agriculture) District to the A (Exclusive Agriculture) District, to the A WE (Exclusive Agriculture, Wind Energy Combining) District and to the A FP (Exclusive Agriculture, Floodplain Combining) District in Zone Map 168; (b) a change in zone classification from A-1 to A in Zone Map 197; (c) amendment to the Kern County General Plan to eliminate section and mid-section line road reservations within Maps 168, 168-27, 179, and 180; and (d) a conditional use permit to allow for the use of a temporary concrete batch plant in Zone Map 168 during construction of the wind energy facility.

The County also has authority to issue building permits for those components of AEWP located on non-federal land. Building permits issued by the County are ministerial in nature and will be issued by the County, as required, if the Project complies with all applicable building code and Conditional Use Permit regulations. The County also has jurisdiction to issue approvals for any easements, ROWs, and or encroachment permits where County facilities are concerned.

5.2 Consultation Processes for ESA Section 7, NHPA Section 106, Indian Tribes, and for SB 18

5.2.1 ESA Section 7 Compliance

The USFWS has jurisdiction to protect threatened and endangered species under the Endangered Species Act (ESA) [16 U.S.C. Section 1531 et seq.]. Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. This consultation has been initiated through a request by the BLM to initiate formal consultation and the submittal of a Biological Assessment (BA). Following review of the BA, the USFWS would be expected to issue a Biological Opinion (BO) that specifies mitigation measures, which must be implemented for any protected species. The BLM will not make a decision on the AEWP until after consultation with the USFWS under Section 7 has been concluded.

5.2.2 NHPA Section 106 Compliance

Federal agencies must demonstrate compliance with the National Historic Preservation Act (NHPA) (16 U.S.C. 470, et seq.). Section 106 of the NHPA requires a federal agency with jurisdiction over a project to evaluate the effect of the proposed project on properties included on, or eligible for, the National Register of Historic Places (NRHP). Federal agencies must also provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the effects of the proposed project to eligible properties. Recent amendments to the regulations implementing Section 106 of the NHPA strengthened tribal involvement in the process (see Section 5.2.3).

Any adverse effects that the proposed AEWP or alternatives may have on historic properties would be resolved through compliance with the terms of a Memorandum of Agreement (MOA) under Section 106 of the NHPA (16 U.S.C. Section 470). Implementation of AEWP also would require local and state agencies to demonstrate compliance with CEQA, for which specific guidance regarding cultural resources is presented in Appendix K of the CEQA Guidelines. Local agencies may use the NHPA process to demonstrate compliance with those CEQA requirements.

As described in Sections 3.4 and 4.4, the assessment of impacts on cultural resources assumes the implementation of those measures incorporated into the Project design or required by regulation which avoid or reduce adverse effects. A proposed action would normally have an adverse effect on cultural resources if

it would disrupt or adversely affect a historic property, including a property with traditional cultural significance (as determined by the NRHP and the NHPA's implementing regulations).

The basic steps in the Section 106 process are described below along with a corresponding summary paragraph presenting BLM's compliance with the process to date:

Step 1: Identification and Evaluation of Historic Properties (Cultural Resources). Properties within a project's area of potential effect (APE) are identified in consultation with the State Historic Preservation Officer (SHPO), Indian tribes and other consulting parties, and evaluated for eligibility to the NRHP in consultation with the SHPO. See 36 C.F.R. § 800.4. BLM applies NRHP criteria for eligibility for listing found at 36 CFR part 60.4, in conformance with the Secretary of the Interior's Standards and Guidelines for Evaluation (48 Federal Register 44723-44726). In general, NRHP eligibility criteria include:

"The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics or a type, period, method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may likely yield, information important in prehistory or history."

A literature review, record search, built environment survey and archaeological inventory has been commissioned to identify historic properties within the AEWP APE. A Native American Heritage Commission Sacred Lands File search was also acquired which included a list of tribal individuals with whom to consult regarding the project and potential effects to sacred sites. The BLM utilized and expanded that list and initiated Section 106 consultation with Indian Tribes (see below) to ensure that ethnographic resources and places of traditional cultural or religious concern are also taken into account (see Section 5.2.3 below). After receipt of the final Cultural Resources Report, only one prehistoric resource was identified as being eligible for the historic register. Since that site was outside the disturbance area of AEWP, a no effect determination will be made. The BLM will continue working with SHPO on subsequent measures that may be required to ensure no adverse impacts to eligible resources, per mitigation measure discussed in Sections 4.4 (Cultural Resources) and 4.10 (Paleontological Resources).

Step 2: Assessment of Effects. BLM determines whether or not the undertaking will affect historic properties listed in or eligible for the NRHP (36 C.F.R. § 800.4(d)). BLM must seek concurrence from the SHPO, or Tribal Historic Preservation Officer (THPO) when appropriate, if it determines that no historic properties will be affected. When BLM determines that historic properties will be affected, BLM must assess whether such effects will be adverse through by applying the criteria outline at 36 C.F.R. § 800.5(a)(1). "Effect" is defined in the regulations as an "alternative to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 C.F.R. § 800.16(i)). An effect is deemed to be adverse if when the effect may "alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association" (36 C.F.R. § 800.5(a)(1)).

In the case of the proposed AEWP and alternatives, all efforts have been made to avoid direct effects to cultural resources. The BLM has determined that since the project will avoid all eligible resources as identified and will take the necessary actions to ensure that other resources will be protected, there will be no effects to eligible resources.

Step 3: Resolution of Adverse Effects. Through consultation with the SHPO, Indian tribes, other consulting parties, and the ACHP, if they elect to participate in Section 106 consultation, BLM will seek to resolve potential adverse effects of the proposed undertaking through a MOA or Programmatic Agreement (PA) (36 C.F.R. § 800.6). The purpose of such consultation is to develop treatment measures to avoid, resolve, or minimize potential adverse effects to historic properties, which will be implemented through the MOA or PA. The MOA often includes a treatment plan that takes into account the effects on NRHP-eligible resources, depicts the APE, discusses reporting requirements, addresses discoveries and unanticipated effects, specifies curation requirements, and provides several administrative provisions. Consulting parties, including Indian Tribes (as appropriate), would be invited to participate in this consultation and the development of the MOA, and could be invited to sign the MOA as concurring parties. BLM must notify the ACHP of its adverse effect determination and intention to resolve such adverse effects through an MOA or PA. ACHP may elect to participate in consultation for the MOA or PA. BLM, SHPO, and the ACHP, if it has elected to participate, must sign the MOA or PA. The BLM will conclude the Section 106 process prior to making a final decision on the Project.

5.2.3 Tribal Consultation

The BLM consults with Indian Tribes on a government-to-government basis in accordance with several authorities including NEPA, the NHPA, the American Indian Religious Freedom Act, and Executive Order 13007. Under Section 106 of the NHPA, the BLM consults with Indian Tribes as part of its responsibilities to identify, evaluate, and resolve adverse effects on historic properties affected by BLM undertakings.

The BLM invited Indian Tribes to consult on the AEWP on a government-to-government basis at the earliest stages of project planning by letter on February 1, 2011. Since that time, the BLM has had no requests for formal or informal meetings with Tribal governments, tribal staff, and tribal members and has followed up with Tribal governments through additional correspondence, communication, and provision of other project information. The BLM has also had individual face-to-face meetings with various Tribal Governments in tribal chambers about this project along with tribal cultural staff and conducted a field visit to the project area.

Additional communications will be mailed to the local tribes prior to the release of this document, again requesting information on resources that may be known in the area and extending the opportunity to consult.

5.2.4 Senate Bill 18 Compliance

In accordance with Senate Bill 18 and the California Tribal Consultation Guidelines, the appropriate Indian tribes were also consulted with respect to the project's potential impacts on Native American places, features, and objects. At the time of this writing, no comments have been received from the applicable Indian tribes.

5.3 Implementation, Monitoring, and Enforcement

5.3.1 Implementation

The BLM will continue to involve and collaborate with the public during implementation of AEWP. Opportunities to become involved during implementation and monitoring could include development of partnerships and community-based citizen working groups. The BLM invites citizens and user groups within the vicinity of AEWP to become actively involved in implementation, monitoring, and enforcement of decisions. The BLM and citizens could collaboratively develop site-specific goals and objectives that mutually benefit public land resources, local communities, and the people who live, work, or play on the public lands.

5.3.2 Monitoring

The BLM would monitor activities throughout the life of AEWP to ensure that decisions are implemented in accordance with the approved ROD and ROW grant. Monitoring would be conducted to determine whether decisions, BMPs and approved mitigation are achieving the desired effects. Effectiveness monitoring would provide an empirical data base on impacts of decisions and effectiveness of mitigation. Effectiveness monitoring also would be useful for improving analytical procedures for future impact analyses and for designing or improving mitigation and enhancement measures. The County also has an obligation under the CEQA to monitor the implementation of adopted mitigation measures within the area of its jurisdiction.

5.3.3 Enforcement and Adaptive Management

The BLM would incorporate adaptive management into mitigation for the proposed AEWP. Adaptive management is a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes. This system goes beyond the traditional "predict-mitigate-implement" model and incorporates the "predict-mitigate-implement-monitor-adapt" model.

Procedures include:

- Determining environmental effects of a project and identifying mitigation needs along with other permitting and regulatory requirements. Analysis should indicate where data are lacking and uncertainty exists with respect to the intended outcomes and the significance of this lack (see 40 CFR 1502.22);
- Monitoring designed for adaptive management must be able to result in appropriate adjustments in project activities as the project is constructed and planned mitigation is installed;
- Striving to ensure public input into and understanding of the principles of adaptive management;
- Maintaining open channels of information to the public and affected regulatory and permitting agencies during the application of adaptive management, including transparency of the monitoring process that precedes adaptive management and the decision-making process that implements it. This involves: (a) identifying indicators of change, (b) assessing monitoring activities for accuracy and usefulness, and (c) making changes in tactics, activities and/or strategies; and
- Providing post-activity opportunity for public and affected outside agency review of adaptive management practices, including practices that were exceptions to any resource management plans or that had permitting and other regulatory requirements not satisfied by prior coordination.

Adaptive management allows agencies, in their NEPA reviews, to establish and analyze mitigation measures that are projected to result in the desired environmental outcomes, and identify those mitigation principles or measures that it would apply in the event the initial mitigation commitments are not implemented or effective.

5.4 Public Involvement

5.4.1 Introduction

Public participation is a dynamic process that continues throughout the preparation of the Plan Amendment EIS/EIR. Scoping meetings were conducted after the publication of the Notice of Intent (NOI) and Notice of Preparation (NOP) to formally solicit public and agency input on issues to be addressed in the Plan Amendment EIS/EIR. In addition, BLM and the County have coordinated with

affected local, state, and federal agencies on issues of concern, as described in Sections 5.1 and 5.2 above. Public and agency comments have also been sought on the information, analysis, and conclusions presented in this Proposed PA and Final EIS/EIR. The BLM used the NEPA commenting process to satisfy the public involvement process for Section 106 of the NHPA as provided for in 36 CFR 800.2(d)(3).

The results of the scoping process are summarized in the sections below.

5.4.2 Scoping

The NOI was published in the Federal Register (Volume 76, No. 136) on July 15, 2011. On August 4, 2011, the BLM and Kern County held publicly noticed Scoping Meetings at the Mojave Veterans Building, Room 1 in Mojave, California. A Public Scoping Report was released for public review in October 2011 and is included as Appendix C**.**

Scoping Requirements

The BLM authorization of a ROW grant for the Project would require a resource management land use PA to the CDCA Plan. Scoping is required by NEPA pursuant to CEQ (40 CFR 1501.7) regulations. The process ensures that significant issues, alternatives, and impacts are addressed in environmental documents and determines the degree to which these issues and impacts will be analyzed in an EIS.

Scoping Process

The scoping process for the Alta East Wind Project Plan Amendment EIS/EIR included the following:

- Publishing the Notice of Intent (NOI)/Notice of Preparation (NOP) to prepare a Plan Amendment EIS/EIR.
- Conducting public scoping meeting and agency consultation meetings.
- Documenting all public and agency comments received for the proposed project in a Public Scoping Report and NOP Public Comments Received (Appendix C).

Each of these components is discussed below.

Notice of Intent

In compliance with NEPA (40 CFR 1501.7), the BLM published a NOI in the Federal Register to prepare an EIS for the Alta East Wind Project (FR Vol. 76, No. 136, pages 41817-41819, July 15, 2011). The scoping period ended on August 15, 2011. The BLM established a website with Project information describing the various methods for providing public comment on the Project, including an e-mail address where comments could be sent electronically. In addition, BLM issued a press release regarding the NOI on July 15, 2011.

Notice of Preparation

As required by CEQA Guidelines §15082 (14 CCR 15000 et seq.), the County of Kern issued an NOP on July 15, 2011, that summarized the Alta East Wind Project and stated its intention to prepare a joint Plan Amendment EIS/EIR, and requested comments from interested or affected parties.

Public Scoping Meeting

Notification for public scoping meetings held on August 4, 2011 at Mojave was made available to the public on BLM's website for the AEWP in July 2011. In addition, notices were sent to stakeholders, including the State Clearinghouse; federal, State, and local agencies and organizations; local property owners, local libraries; and Native American groups.

One public scoping meeting was held on August 4, 2011, in Mojave, California. Presentations describing the environmental review process were delivered by representatives of the BLM and County of Kern. Approximately 35 persons attended the meeting, including representatives from local and state agencies, organizations, and private citizens. Eight (8) letters were received during the scoping comment period that ended on August 15, 2011: six (6) from federal, state, and local agencies and organizations; and two (2) from individuals. Comments were received on the following categories: Alternatives; Cultural Resources; Cumulative Impacts; Lands and Realty; Multiple-Use Classes; Noise; Proposed Action; Public Health and Safety; Social and Economic Setting; Transportation and Public Access; Visual Resources; Water Resources; and Wildlife Resources. A summary of these comments is provided in the Public Scoping Report and NOP Comments Received (Appendix C). Comments received during scoping are addressed in the analysis of impacts in this EIS/EIR, and were also considered in the formulation of alternatives.

Scoping Report

The BLM produced a scoping report in October 2011, which contained information received during the public scoping comment period. Comments received during the scoping period were grouped into the following three categories:

- Issues or concerns that could be addressed by effects analysis;
- Issues or concerns that could develop an alternative and/or a better description or qualification of the alternatives; and
- Issues or concerns outside the scope of the Plan Amendment EIS/EIR.

5.5 Administrative Remedies

The BLM and the EPA's Office of Federal Activities will publish separate Notice of Availability's (NOAs) for the PA & Final EIS/EIR in the Federal Register when the document is ready to be released to the public. The NOA (to be published by the EPA in the Federal Register) will initiate (i) a 30-day protest period on the Proposed PA to the Director of the BLM in accordance with 43 CFR 1610.5-2, and (ii) a 60-day Governor's Consistency review period in accordance with 43 CFR 1610.3-2. All protests and recommendations received during the protest and consistency review periods, respectively, will be reviewed and addressed, subject to the applicable legal requirements, prior to any final decision on the AEWP.

Following resolution of any protests, the BLM may publish an Approved PA and a ROD on the Project Application. Publication and release of the ROD would serve as public notice of BLM's decision on the Project Application which is appealable in accordance with 43 CFR Part 4.

5.6 List of Preparers

Though individuals have primary responsibility for preparing sections of the Proposed PA & EIS/EIR, the document is an interdisciplinary team effort. In addition, internal review of the document occurs through-out preparation. Specialists at the BLM's Field Office, State Office, and Washington Office review the analysis and supply information, as well as provide document preparation oversight. Contributions by individual preparers may be subject to revision by other BLM specialists and by management during internal review.

Table 5-1. List of Preparers

Name	Job Title	Primary Responsibility
BLM – Ridgecrest Field Office		
Jeffery Childers	Project Manager	Project manager, NEPA Compliance
Paul Rodriquez	Realty Specialist	Lands, Land Use
Glenn Harris	Natural Resources	Air, Water , Hydrology, Grazing
Donald Storm	Archeologist	Cultural Resources
BLM – California Desert District Office		
Kim Marsden	Biologist	Vegetation and Wildlife
Tiffany Thomas	Archeologist	Cultural Resources
BLM – California State Office		
Sandra McGinnis	Planning and Environmental Coordinator	NEPA and Land Use
County of Kern – Planning and Community Development Department		
Kitchen, Jacquelyn	Planner III	Project Manager, CEQA Compliance and Land Use
Murphy, Craig	Planning Division Chief	CEQA Compliance and Land Use
Aspen Environmental Group		
Capello, Emily	Environmental Scientist	Cumulative Scenario, Growth Inducing Impacts, Irreversible & Irretrievable Impacts, Unavoidable Adverse Impacts and Comparison of Alternatives
Davidson, Jon	Vice President	Editing and Review
Debauche, Scott	Environmental Scientist	Project and Alternatives, Environmental Justice, Noise, Public Health & Safety, Social and Economic Issues, Transportation, Wildland Fire Ecology
Hawkins, Jacob	Environmental Scientist	Wildland Fire Ecology, Policy Consistency
Huerta, Susanne	Environmental Planner	Lands and Realty, Livestock Grazing, Multiple Use Classes, Recreation, Special Designations, Wild Horses and Burros, Policy Consistency
Hwang, Insun	Engineer	Air Resources, Climate Change
Koczwara, Hedy	Environmental Scientist	Deputy Project Manager, Introduction
Lancaster, Jennifer	Biologist	Vegetation Resources, Wildlife Resources
Mescher, Aubrey	Environmental Planner	Soil Resources, Water Resources
Noorzay, Akbar	GIS Specialist	Geographic Information Systems
Simpson, Kati	Graphics Specialist	Graphic Coordinator/Document Production
Spicer, Judy	Document Coordinator	Production Manager
Tangard, Mark	Document Coordinator	Document Production
Vahidi, Negar	Senior Environmental Planner	Project Manager
Walters, Will	Senior Engineer	Air Resources, Climate Change
Yeh, Stanley	Senior Environmental Scientist	Deputy Project Manager
Applied Earthworks, Inc.		
George, Joan	Associate Archaeologist	Cultural and Paleontological Resources
Goldberg, Susan	Principal Investigator	Cultural and Paleontological Resources
Mirro, Michael	GIS Specialist	Cultural and Paleontological Resources
William Kanemoto and Associates		
Kanemoto, William	Visual Resource Specialist	Visual Resources

6. Acronyms and Abbreviations

µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
°F	degrees Fahrenheit
AB 32	California Global Warming Solutions Act of 2006
ac	acres
ac-ft	acre-feet
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council on Historic Preservation
ACOE	Army Corps of Engineers
ADT	Average Daily Trips
AEWP	Alta East Wind Project
af	acre-feet
AFB	Air Force Base
afy	acre-feet per year
AIChE	American Institute of Chemical Engineers
AIRFA	American Indian Religious Freedom Act
ALUCP	Airport Land Use Compatibility Plan
AMP	Allotment Management Plan
amsl	above mean sea level
AOCM	Alta–Oak Creek Mojave
APCD	Air Pollution Control District
APE	Area of Potential Effect
APWRA	Altamont Pass Wind Resource Area
AQMD	Air Quality Management District
ARB	Air Resources Board
ARRA	American Recovery and Reinvestment Act of 2009
ASTM	American Society for Testing and Materials
AWEA	American Wind Energy Association
BA	Biological Assessment
BAU	business-as-usual
bgs	below ground surface
bhp	brake-horsepower
BLM	Bureau of Land Management
BMPs	best management practices
BO	Biological Opinion
BOE	California Board of Equalization
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards

CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
CalARP	California Accidental Release Program
CalEPA	California Environmental Protection Agency
Cal-IPC	California Invasive Plant Council
Cal-OSHA	California Occupational Safety and Health Administration
CalPIF	California Partners in Flight
Caltrans	California State Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CATEF II	California Air Toxics Emission Factors
CBC	California Building Code
CCD	Census County Division
CCR	California Code of Regulations
CDC	Disease Control and Prevention
CDCA	California Desert Conservation Area
CDCA Plan	California Desert Conservation Area Plan
CDFG	California Department of Fish and Game
CDNPA	California Desert Native Plants Act
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQ	on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CHWMP	County Hazardous Waste Management Plan
CIWMB	California Integrated Waste Management Board
CMLUCA	California Military Land Use Compatibility Analysis
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbone monoxide
CO_2	carbon dioxide
CO_2	carbon dioxide
COG	(Kern) Council of Governments
col	colonies

CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRMP	cultural resources management plan
CRPR	California Rare Plant Rank
CSD	Community Services District
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
cy	cubic yards
dB	Decibel
dBA	A-weighted decibels
DBE	Design Basis Earthquake
DHS	Department of Health Services
DOC	California Department of Conservation
DOD	United States Department of Defense
DOSH	Division of Occupational Safety and Health
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DPR	Department of Pesticide Regulation
DPR 523	Department of Parks and Recreation cultural resources inventory form
DTSC	Department of Toxic Substances Control
DWMA	Desert Wildlife Management Area
DWR	Department of Water Resources
EA	environmental assessment
EHS	extremely hazardous substance
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EKAPCD	Eastern Kern Air Pollution Control District
EMF	electromagnetic field
EMI	electromagnetic interference
EPA	Environmental Protection Agency
EPAct 05	Energy Policy Act of 2005
EPC	engineering, procurement, and construction
EPCRA	Emergency Planning and Community Right-To-Know Act of 1986
EPS	Emissions Performance Standard
ESA	Endangered Species Act
ESA	Environmentally Sensitive Area
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency

FERC	Federal Energy Regulatory Commission
FHA	Federal Highway Administration
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRMs	Flood Insurance Rate Maps
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FP	Floodplain
fps	feet per second
FRA	federal responsibility area
FS	Forest Service
ft	feet
ft^2/d	square feet per day
FY	fiscal year
g	gravity
gal	gallon
GANDA	Garcia and Associates
gen-tie	power transmission line
GHG	greenhouse gas
GIS	geographic information system
GO	General Order
GPA	General Plan Amendment
gpd	gallons per day
gpd/ft	gallons per day per foot
gpd/ft^2	gallons per day per square foot
gpm	gallons per minute
GPS	global positioning system
GSP	gross state product
GWh	gigawatt-hour
H_2S	hydrogen sulfide
HA	Herd Area
HCP	habitat conservation plan
HEC-RAS	Hydrologic Engineering Center River Analysis System
HFCs	hydrofluorocarbons
HMA	Herd Management Areas
HMBP	Hazardous Materials Business Plan
hp	horsepower
HSWA	Hazardous and Solid Waste Act
HT1L	Horned Toad Formation - Lower Member 1
HT1U	Horned Toad Formation - Upper Member 1
HT2	Horned Toad Formation - Member 2

HT3	Horned Toad Formation - Member 3
HT4	Horned Toad Formation - Member 4
HT5	Horned Toad Formation - Member 5
HU	Hydrologic Unit
HWCA	Hazardous Waste Control Act
Hz	Hertz
IBC	International Building Code
ICC	International Code Council
in	inches
in/sec	inches per second
IWMB	Integrated Waste Management Board
kA	kilo-amps
KCEHS	Kern County Emergency Health and Safety Division
KCFD	Kern County Fire Department
KCGP	Kern County General Plan
KCSD	Kern County Sheriff Department
KCSS	Kern County Superintendent of Schools
KOP	Key Observation Point
kV	kilovolt
kVA	kilovolt-amperes
kVAR	kilovolt-ampere reactive
kW	kilowatt
kWe	kilowatt-electric
L90	The A-weighted noise level that is exceeded 90 percent of the time during the measurement period.
LADWP	Los Angeles Department of Water and Power
lbs	pounds
Ldn	day-night average noise level
LEPC	local emergency planning committee
Leq	equivalent continuous sound level
LOS	Level of Service
LRA	local responsibility area
LSAA	Lake or Streambed Alteration Agreement
LUP	Land Use Plan
M6.0	earthquake of magnitude 6.0 or greater
Ma	million years ago
MAZ	Motorized Access Zone
MBTA	Migratory Bird Treaty Act
MCD	minor civil divisions
MCE	maximum credible earthquake
MCLs	maximum contaminant levels

MCV	Manual of California Vegetation
MDA	Master Power Purchase and Wind Project Development Agreement
MDAB	Mojave Desert Air Basin
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MgCl	magnesium chloride
mi	miles
ml	milliliters
mm	millimeters
MMBtu	1 million british thermal units
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour
MRDS	Mineral Resources Data System
MSA	Metropolitan Statistical Area
MSDS	material safety data sheets
msl	mean sea level
MSP	Mojave Specific Plan
MTCO2e	metric tons of carbon dioxide equivalent
MTPs	Master Title Plats
MUC C	Multiple-Use Class Controlled
MUC I	Multiple-Use Class Intensive
MUC L	Multiple-Use Class Limited
MUC M	Multiple-Use Class Moderate
MUC U	Multiple-Use Class Unclassified
MUCs	multiple use classes
Mw	Maximum Earthquake Magnitude
MW	megawatt
MWh	megawatt-hour
N/A	Not Applicable
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NFIP	National Flood Insurance Program
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NLCS	National Landscape Conservation System
NNL	National Natural Landmarks

NO_2	nitrogen dioxide
NO_3	nitrates
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration's
NOI	Notice of Intent
NOP	Notice of Preparation
NPA	National Programmatic Agreement
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	National Park Service
NR	Natural Resource
NRHP	National Register of Historic Places
NSR	New Source Review
NWI	National Wetlands Inventory
NWP	Nationwide Permit
O&M	operations and maintenance
O_2	oxygen
O_3	ozone
OA	Older Pleistocene alluvium
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHV	off-highway vehicle
OHW	Ordinary High Water
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Act of 1970
PA	Plan Amendment
PCT	Pacific Crest Trail
PEIS	programmatic environmental impact statement
PFCs	perfluorocarbons
PFYC	Potential Fossil Yield Classification
PM	particulate matter
PM10	particulate matter less than 10 microns in diameter; respirable particulate matter
PM2.5	particulate matter less than 2.5 microns in diameter
POD	Plan of Development
ppm	parts per million
ppmv	parts per million by volume
ppmvd	parts per million by volume, dry
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
psi	pounds per square inch

PTWF	Pine Tree Wind Farm
PV	photovoltaic
Qa	Late Pleistocene alluvium
QA	Quaternary alluvium
RCRA	Resource Conservation and Recovery Act
REC I	Water Contact Recreation
REC II	Non-contact Water Recreation
RF	Recreation-Forestry
RHNA	Regional Housing Needs Assessment
RMP	Risk Management Plan
RMS	root mean square
ROD	Record of Decision
ROW	right-of-way
RPF	Registered Professional Forester
RPS	Renewable Portfolio Standard
RQ	reportable quantity
RSH	rotor-swept height
RSPF	resource selection probability function
RTP	Regional Transportation Plan
RUSLE2	Revised Universal Soil Loss Equation
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison Company
scf	standard cubic feet
scfh	standard cubic feet of hydrogen per hour
SERC	state emergency response commission
sf	square feet
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SLE	St. Louis Encephalitis
SMA	Special Management Area
SMARA	State Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SO_2	sulfur dioxide
SO_4	sulfates
SO_4	sulfate
SP	Southern Pacific Railroad

SPCC	Spill Prevention, Control, and Countermeasures
SPL	sound pressure level
sq mi	square miles
SR	State Route
SRA	State responsibility area
SSJVIC	Southern San Joaquin Valley Information Center
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
T-BACT	Best Available Control Technology for Toxics
TDS	Total Dissolved Solids
THPO	Tribal Historic Preservation Officer
TMDL	total maximum daily load
TOB	tops of banks
TPQ	threshold planning quantity
Tpy	tons per year
TQ	Threshold Quantity
TR	Tertiary rhyolitic felsite
TRTP	Tehachapi Renewable Transmission Project
~~TWRA~~	~~Tehachapi Wind Resource Area~~
UCMP	of California's Museum of Paleontology
UCR	University of California, Riverside
UPA	Unusual Plant Assemblages
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
UXO	Unexploded Ordnance
V/C	Volume to capacity
VdB	velocity decibel
VMT	vehicle miles traveled
VOC	Volatile Organic Compound
VRI	visual resource inventory
VRM	Visual Resource Management
WA	wilderness area
WATCH	Work Area Traffic Control Handbook
WDID	Waste Discharge Identification Number

WDRs	Waste Discharge Requirements
WE	Wind Energy
WEE	Western Equine Encephalomyelitis
WEMO	West Mojave Plan
WEST	Western EcoSystems Technology, Inc.
WFMP	Wildland Fire Management Plan
WHO	World Health Organization
WMP	West Mojave Plan
WNV	West Nile virus
WRA	wind resource area
WSA	Water Supply Assessment
WSA	wilderness study area
WTG	wind turbine generators
WTGAC	Wind Turbine Guidelines Advisory Committee
WTS	Wind Turbine Syndrome
WUS	Waters of the United States
ybp	years before present
YPS	sodium ferrocyanide (yellow prussiate of soda)
yr	year

Bureau of Land Management