

## **IV.25 CUMULATIVE IMPACTS ANALYSIS**

### **IV.25.1 Introduction and Methodology**

The California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) require preparation of a cumulative impact analysis. This chapter analyzes how the Desert Renewable Energy Conservation Plan (DRECP or Plan) may affect the environmental conditions within and beyond the Plan Area. This Environmental Impact Report/Environmental Impact Statement (EIR/EIS) also analyzes how DRECP-related future transmission facilities in the vicinity of the Plan Area and outside the Plan Area may be affected by the DRECP in combination with other activities likely to take place over the next 25 years in those areas.

#### **IV.25.1.1 Legal Requirements**

##### **IV.25.1.1.1 CEQA**

Under CEQA, “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” An EIR must discuss cumulative impacts if the incremental effect of a project is “cumulatively considerable” (14 California Code of Regulations [CCR] Section 15130[a] et seq.). Such analysis requires a determination as to whether the combined impact of all projects considered together is cumulatively significant and, if it is, whether the incremental effect of the project [DRECP] evaluated under CEQA is cumulatively considerable (14 CCR Section 15064[h])[1]).

If the combined cumulative impact is not significant, the EIR must briefly explain why the impact is not significant and is not discussed in detail (14 CCR Section 15130[a])[2]).

A project’s contribution to a significant cumulative impact is cumulatively considerable if its incremental effects “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” (14 CCR Section 15065[a])[3]). Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (14 CCR Section 15355[b]).

Both the severity of impacts and the likelihood of their occurrence are to be indicated in the discussion of cumulative impacts, “but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather

than the attributes of other projects which do not contribute to the cumulative impact” (14 CCR Section 15130[b]).

An adequate discussion of significant cumulative impacts must include either a list of past, present, and probable future projects producing related or cumulative effects or a summary of projections from an adopted local, regional, or statewide plan, related planning document, or related environmental document that describes conditions contributing to the cumulative effect (14 CCR Section 15130[b]). The analysis must be sufficient in detail to be useful to the decision makers in deciding whether, or how, to adopt measures to mitigate cumulative impacts.

#### **IV.25.1.1.2 NEPA**

NEPA identifies three types of potential impacts: direct, indirect, and cumulative. A cumulative impact is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (federal or nonfederal) or person undertakes such other actions (40 Code of Federal Regulations [CFR] Section 1508.7). Further, “[c]umulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR Section 1508.7). The Council on Environmental Quality (CEQ) recommends that agencies “look for present effects of past actions that are, in the judgment of the agency, relevant and useful because they have a significant cause-and-effect relationship with the direct and indirect effects of the proposal for agency action and its alternatives” (36 CFR Section 220.4[f]).

#### **IV.25.1.2 Methodology**

Under NEPA, the approach for analyzing cumulative effects involves establishing a geographic scope and time frame for the each cumulative effects issue. “The geographic scope is generally based on the natural boundaries of the resource affected, rather than jurisdictional boundaries” and may be different for each cumulative effect issue. “Time frames, like geographic scope, can vary by resource” (H-1790-1 BLM Section 6.8.3 et seq.). Once the geographic and temporal scopes have been established, “[t]he cumulative effects analysis considers past, present, and reasonably foreseeable future actions that would affect the resource of concern within the geographic scope and the time frame of the analysis.” The analysis must include other federal actions, and nonfederal (including private) actions (40 CFR 1508.7). The U.S. Fish and Wildlife Service (USFWS) Manual (550 FW 2.2) requires a separate cumulative effects analysis for each alternative, including the proposed action (under DRECP referred to as the Preferred Alternative).

Under NEPA, past actions must be considered to provide context for the cumulative effects analysis (40 CFR 1508.7). Past actions can usually be described by their aggregate effect without listing or analyzing the effects of individual past actions (CEQ, *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis*, June 24, 2005). The past actions in the Plan Area contributed to the existing baseline and are described in Volume III, Environmental Setting/Affected Environment. In some circumstances, past actions must be described in detail when they bear some relation to the proposed action (H-1790-1, Section 6.8.3.4). Where necessary, those actions are described throughout this section. For example, Table IV.25-1 includes past and present energy projects (i.e., existing projects and projects currently approved for construction).

Under CEQA, a discussion of significant cumulative impacts must use one of two approaches or methodologies. One approach is to use a “list of past, present, and probable future projects producing related or cumulative impacts” (14 CCR Section 15130[b][1][A]). The other approach is to use a summary of projections contained in an adopted local, regional, or statewide plan, a related planning document, or a prior environmental document that has been adopted or certified, which describes or evaluates regional or Plan Area conditions contributing to the cumulative impact (14 CCR Section 15130[b][1][B]).

This cumulative analysis uses both approaches: a list approach is used to analyze renewable energy and other large projects’ contributions to cumulative impacts, and projections from approved plans were used to identify impacts from other types of projects and activities in the area, as discussed below. In this chapter, the term “cumulative projects” collectively refers to projects that appear in the cumulative project list and those captured in the planning projections from approved plans. Cumulative projects do not include renewable energy projects and related activities under DRECP—even though impacts of DRECP Covered Activities are considered part of this chapter’s analysis of cumulative impacts.

**Renewable Energy Projects.** For renewable projects in the Plan Area, Tables IV.25-1 through IV.25-3 present a list of past, present, and foreseeable future projects included in the cumulative impact analysis. A reasonably foreseeable renewable project is one that has a signed Power Purchase Agreement (PPA), an approved BLM right-of-way (ROW), other project approvals, or for which environmental review has begun by the lead agency. - Projects proposed on BLM-managed public land that have not yet started the environmental review process, but for which BLM has received a plan of development (POD) were also considered reasonable foreseeable, and are included on Table IV.25-3. The DRECP analysis recognizes that some of these renewable projects may not be developed. In addition, most of the projects listed in Tables IV.25-1 through IV.25-3 have been, are being, or would be required to undergo their own independent environmental review under NEPA, CEQA, or both, as applicable.

Renewable energy projects on BLM lands approved after BLM adopts a DRECP Record of Decision (ROD) would be subject to the provisions of the DRECP (unless they fall under an existing application as described in Volume II, Section II.3.2.1.4, Existing Applications on BLM-Administered Land). Because these projects are subject to DRECP decisions, the impacts from their development are included in the direct and indirect impacts analysis for the DRECP itself, and are not duplicated in the cumulative impacts. Renewable projects identified in Table IV.25-2 may fall under an existing application and are therefore considered cumulative projects rather than DRECP projects.

**Other Projects.** Table IV.25-4 provides a list of other large projects. A summary of actions and trends contained in adopted general plans or other federal or state planning documents is also included for both the Plan Area and outside the Plan Area where the transmission required to take the renewable energy to the load would be located.

If BLM adopts a DRECP ROD, many projects on BLM lands would be subject to the Land Use Plan Amendment (LUPA) component of the DRECP, whether or not those projects involved renewable energy development. Because these projects are subject to the DRECP, their impacts are included in direct and indirect impacts of the DRECP itself. Projects on private or public land (other than BLM lands) that are not renewable energy projects would not be covered by the DRECP, so these projects are included as appropriate in this analysis as cumulative projects.

For both renewable energy and other projects, where the BLM has approved a land use plan amendment permitting development, but construction had not started as of October 2013, the effects of the land use plan amendment (i.e., planning decisions designating lands for certain uses) are considered a past action and identified as such in Volume III. However, construction and operation impacts of those projects have not yet occurred, but are considered reasonably foreseeable.

### **IV.25.1.3 Projects Included in the Cumulative List**

Developers have proposed a large number of projects on BLM-administered, state, and private land in the Plan Area, including renewable energy, residential, commercial, industrial, and other. Because of the size of the DRECP, the county projections summary accounts for smaller projects and cumulative development outside the DRECP.

While the cumulative list includes many renewable projects and the cumulative analysis conservatively assumes all projects would be built, they are competing for utility Power Purchase Agreements, which will allow utilities to meet state-required Renewable Portfolio Standards. Not all of the projects listed in Table IV.25-2 will complete the environmental

review process and be approved, and not all approved projects will be funded and constructed for one or more of the following reasons:

- Not all developers will develop the detailed information necessary to meet BLM, state, and federal standards or have the time or funds to complete the plan of development or comply with the environmental review requirements.
- As part of approval by the appropriate lead agency under NEPA and/or CEQA (e.g., BLM, California Energy Commission [CEC], local jurisdiction, or USFWS if Endangered Species Act-listed species would be affected), applicants must comply with all existing laws, regulations, or the prescriptions required by the regulatory authorities incorporated into the lead agency's license, permit, ESA Section 7 consultation, 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.
- After project approval, construction financing must be obtained (if it has not been obtained earlier in the process). The availability of financing will depend on the status of competing projects, the laws and regulations related to renewable project investment, and the time required for obtaining permits for individual projects.
- The inability to secure—or a delay in securing—a Power Purchase Agreement may result in a delay in financing.

## **IV.25.2 Applicable Cumulative Projects and Projections**

### **IV.25.2.1 Cumulative Projects**

Tables IV.25-1 and IV.25-2 present the existing and reasonably foreseeable renewable projects as of October 2013, the established baseline date, that could contribute to the cumulative effects in the Plan Area boundary. Projects are listed by DRECP ecoregion subareas.

**Table IV.25-1  
Renewable Energy Projects – Operational (OP), Under Construction (UC), and  
Approved (A) as of October 2013<sup>1</sup>**

Project Name	MW	Technology	Acreage	Status
<i>Cadiz Valley and Chocolate Mountains</i>				
Blythe Solar Power Project*	375 (485)	Solar PV	7,025(4,138)	A
Desert Harvest Solar Farm	150	Solar PV	1,208	A
Desert Sunlight Solar Farm	550	Solar PV	4,144	UC
First Solar Electric Blythe 1	21	Solar PV	200	OP
Genesis NextEra Phase 1 and 2	250	Solar Trough	1,950	OP
McCoy Solar Energy Project	750	Solar PV	4,395	UC
Solar Reserve Rice Solar	150	SPT	1,387	A
<i>Imperial Borrego Valley</i>				
Black Rock Geothermal 1,2, and 3	159	Geothermal	160	A
Calexico Solar Farm 1 and 2	400	Solar PV	2,800	A
Campo Verde Solar	139	Solar PV	1,990	OP
Centinela Solar	275	Solar PV	2,067	OP
East Brawley Geothermal Project	49.9	Geothermal	3,030	A
Hudson Ranch I	49.9	Geothermal	305	OP
Hudson Ranch II	49	Geothermal	245	A
Imperial Solar Energy Center West* (C Solar West)	250	Solar PV	1,100	UC
Imperial Solar Energy Center South* (C Solar South)	130	Solar PV	946	OP
Midway Solar I and II/Calipatria Solar Farm I	275	Solar PV	1,731	A
Mount Signal Solar Farm	200	Solar PV	1,400	UC
NRG Solar Borrego I	26	Solar PV	308	OP
Ocotillo Express	315	Wind	12,436	OP
Ocotillo Sol	15	Solar PV	115	A
ORNI 18	50	Geothermal	240	OP
Solar Gen 2 (Arkansas, Alhambra, Sonora)	150	Solar PV	1,500	A
Sol Orchard 1-4, 6-10, 12-17	8.5	Solar PV	Unknown	UC
Sol Orchard Solar Farm Project (El Centro)	20	Solar PV	140	A
<i>Kingston and Funeral Mountains</i>				
Ivanpah	390	SPT	3471	OP
Stateline Solar Farm	300	Solar PV	1,685	UC

<sup>1</sup> Projects on BLM land were updated as of July 2014. However, for the baseline and cumulative analysis, the projects identified as of October 2013 were used. Updated acreage and MW provided in parenthesis for informational purposes.

**Table IV.25-1  
Renewable Energy Projects – Operational (OP), Under Construction (UC), and  
Approved (A) as of October 2013<sup>1</sup>**

Project Name	MW	Technology	Acreage	Status
<i>Mojave and Silurian Valley</i>				
<i>Owens River Valley</i>				
<i>Panamint Death Valley</i>				
<i>Pinto Lucerne Valley and Eastern Slopes</i>				
Agincourt Solar - Lucerne Valley	10	Solar PV	80	A
Marathon Solar - Lucerne Valley	20	Solar PV	152	A
SEPV2 – Twentynine Palms Solar	2	Solar PV	20	OP
SEPV8 LLC	12	Solar PV	100	OP
SEPV9 LLC	9	Solar PV	80	OP
Solutions for Utilities Inc. Phase 1 and 2 (Now Soitec)	3	Solar PV	Unknown	A*
Sunlight Partners Apple Valley (Nunn)	1	Solar PV	10	A
Sunlight Partners El Mirage	2.5	Solar PV	26	A
<i>Piute Valley and Sacramento Mountains</i>				
<i>Providence and Bullion Mountains</i>				
<i>West Mojave and Eastern Slopes</i>				
Abengoa Mojave Solar	250	Solar Trough	1,765	UC
Absolutely Solar (CUP 11-02)	3.4	Solar PV	20	UC
Adelanto Solar	10	Solar PV	42	OP
Alpine Solar Project	66	Solar PV	835	OP
Alta East	300 (153)	Wind	2,592 (1,999)	OP
Alta Operational (I–VI and VIII)	1020	Wind	13,785	OP
Barren Ridge I Solar Project	74	Solar PV	588	A
Beacon Solar Energy Project	250	Solar PV	2,320	A
Borrego Solar Farm (at Edwards Air Force Base)	3.4	Solar PV	n/a	OP
Catalina Renewable Energy Project aka Solar	130	Solar PV	1,223	UC/OP
Columbia I	20	Solar PV	165	A
Columbia III	10	Solar PV	68	A
Coram Ridge Wind Project	102	Wind	Unknown	OP
Coran Inc.	8	Wind	130	OP
Great Lakes	5	Solar PV	40	A
Hesperia 14 LLC	--	Solar PV	12.5	A

**Table IV.25-1  
Renewable Energy Projects – Operational (OP), Under Construction (UC), and  
Approved (A) as of October 2013<sup>1</sup>**

Project Name	MW	Technology	Acreage	Status
Irell Foundation Zone Change Case 42, Zone Variance Case 16, map 197 (Wind Coram Inc.)*	3	Wind	60	A
Jawbone Wind	39	Wind	640	UC
Kramer Junction Solar Energy Center	--	Solar PV	Unknown	A
Lightsource Renewables LLC	40	Solar PV	Unknown	A
Lower West Wind Energy Project	14	Wind	185	A
Morgan Hills	230	Wind	3,604	A
Mountain View IV	49	Wind	1,240	OP
NextLight Antelope Valley (AV Solar Ranch) PV1	115	Solar PV	1,050	UC/OP
NextLight Antelope Valley (AV Solar Ranch) PV2	115	Solar PV	1,050	UC
North Sky River Energy	163	Wind	12,781	UC
Pacific Wind LLC	140	Wind	8,300	OP
Pine Tree Solar	8.5	Solar PV	34	OP
Pine Tree Wind Farm	120	Wind	8,000	OP
Pinyon Pines I (168 MW) and II (132 MW) (formerly known as Alta Wind VII and IX)	300	Wind	acreage included in Alta Operational	OP
RE Rio Grande	5	Solar PV	47	UC
Rosamond I	20	Solar PV	320	A
Rosamond II	20	Solar PV	160	A
Rosamond Solar Project	120	Solar PV	960	A
Silverado Power (CUP 11-03)	10	Solar PV	67	A
Silverado Power (CUP 11-05)	20	Solar PV	80	A
SunPeak Solar	23	Solar PV	123	OP
Tehachapi Photovoltaic Project	40	Solar PV	337	A
TA High Desert - Solar PV	20	Solar PV	216	UC
Victor Phelan Solar 1	17.5	Solar PV	160	A
Windstar (Aero Energy)	120	Wind	1,007	OP

\* Project has been approved but is undergoing right-of-way amendment for a technology change. Blythe was originally approved at 1,000 megawatts (MW) but NextEra revised their Plan of Development to the BLM to 485 MW.

**Data Source:** BLM websites: <http://www.blm.gov/ca/st/en/fo/palmsprings.html>, <http://www.blm.gov/ca/st/en/fo/elcentro.html>, <http://www.blm.gov/ca/st/en/fo/needles.html>, <http://www.blm.gov/ca/st/en/fo/barstow.html>, <http://www.blm.gov/ca/st/en/fo/ridgecrest.html>; Kern County website: <http://pcd.kernds.com/planning/renewable-energy>, Inyo County website: <http://www.inyoplanning.org/projects.htm>, San Bernardino website: <http://cms.sbcounty.gov/lus/Planning/RenewableEnergy.aspx>, Riverside County: <http://planning.rctlma.org>, and Imperial website: <http://www.icpds.com/?pid=988>; CEC list of renewable projects.

**Table IV.25-2  
Renewable Energy Projects – Under Environmental Review (UER) as of October 2013<sup>2</sup>**

Project Name	MW	Acres	Technology	Status
<i>Cadiz Valley and Chocolate Mountains</i>				
Palen Solar Power Project*	500	5,200	SPT	UER/Approved/FEIS +
Palo Verde Mesa	485	3,400	Solar PV	NOP 8/9/12
<i>Imperial Borrego Valley</i>				
Imperial Valley Solar Company 2	30	159	Solar PV	UER/FEIR 05/2013
Silverleaf Solar (Imperial Valley)	160	1,100	Solar PV	NOP 3/14/2012
Wistaria Ranch Solar	250	3,394	Solar PV	NOP September 2013
Seville Solar Farm Complex	25	2,440	Solar PV	NOP September 2013
<i>Kingston and Funeral Mountains</i>				
Hidden Hills SEGS**	500	3,277	SPT	Suspended
<i>Mojave and Silurian Valley</i>				
Bechtel Soda Mountain Solar	350	4,397	Solar PV	DEIS 11/29/2013
<i>Owens River Valley</i>				
Southern Owens Valley Solar Ranch	200	3,100	Solar PV	EIR
<i>Panamint Death Valley</i>				
<i>Pinto Lucerne Valley and Eastern Slopes</i>				
Cal SP VII LLC	3	30	Solar PV	UER/MND
Cascade Solar	18.5	150	Solar PV	UER/MND
Deep Creek Solar	2	26	Solar PV	UER/MND 11/2012
<i>Piute Valley and Sacramento Mountains</i>				
<i>Providence and Bullion Mountains</i>				
<i>West Mojave and Eastern Slopes</i>				
Addison Energy Wind Project	--	--	Wind	NOP September 2013
Avalon Wind Energy Project	300	7,369	Wind	UER/FEIR
Deep Creek Solar - Apple Valley	2	26	Solar PV	DMND 10/2012
Fremont Valley Preservation Water Bank and Solar Project	1008	4,806	Solar PV	NOP 11/2012
FRV Orion (Kern)	20	165	Solar PV	NOP 3/23/2012
FRV Valley Solar Project	115	984	Solar PV	UER/FEIR
Kingbird Solar (Kern)	40	324	Solar PV	NOP 7/27/2012
North Edwards Solar	20	--	Solar PV	UER/MND

<sup>2</sup> Projects on BLM land were updated as of July 2014. However, for the cumulative analysis, the projects identified as of October 2013 were used.

**Table IV.25-2  
Renewable Energy Projects – Under Environmental Review (UER) as of October 2013<sup>2</sup>**

Project Name	MW	Acres	Technology	Status
Pioneer Green Energy (Kern)	125	--	--	FEIR
Silverado Power Six Projects***	172	750	Solar PV	NOP 6/2012
Summer and Springtime Solar	60	293	Solar PV	UER/DMND
Topco Solar	7.5	20	Solar PV	UER/DMND
Tylerhorse	60	1520	Wind	DEIS 4/18/2014
Victor Dry Farm Ranch LLC	10	40	Solar PV	UER/MND
Yakima Solar Project	40	429	Solar PV	Draft EIR 9/3/2013

† FEIS/DEIS – Final/Draft Environmental Impact Statement; FEIR/DEIR – Final/Draft Environmental Impact Report; MND – Mitigated Negative Declaration; NOP – Notice of Preparation; NOI – Notice of Intent

\* The Palen developer has requested a technology change from solar thermal trough to a solar thermal tower. The California Energy Commission approved the original project and is reviewing the requested project amendment. The BLM published a Final EIS on the original technology, and must supplement its analysis to address the new technology.

\*\* The Hidden Hills Application for Certification was suspended until further notice; the Applicant plans to continue to evaluate and collect information for the Project [Docket 11-AFC-02, TN# 70195, April 03, 2013]

\*\*\*Projects are North Lancaster Ranch, Western Antelope Blue Sky Ranch, American Solar Greenworks, Antelope Solar Greenworks, Silver Sun Greenworks, and Lancaster WAD.

**Data Source:** BLM websites: <http://www.blm.gov/ca/st/en/fo/palmsprings.html>, <http://www.blm.gov/ca/st/en/fo/elcentro.html>, <http://www.blm.gov/ca/st/en/fo/needles.html>, <http://www.blm.gov/ca/st/en/fo/barstow.html>, <http://www.blm.gov/ca/st/en/fo/ridgecrest.html>; Kern County website: <http://pcd.kernds.com/planning/renewable-energy>, Inyo County website: <http://www.inyoplanning.org/projects.htm>, San Bernardino website: <http://cms.sbcounty.gov/lus/Planning/RenewableEnergy.aspx>, Riverside County: <http://planning.rctlma.org>, and Imperial website: <http://www.icpds.com/?pid=988>; Energy Commission list of renewable projects.

Table IV.25-3 presents the BLM wind and solar development with a Plan of Development that have not started the NEPA review process but could contribute to cumulative effects in the Plan Area.

**Table IV.25-3  
BLM Wind Development and First-in-Line<sup>1</sup> Solar Applications<sup>3</sup>**

Projects	BLM Serial Number	MW	Acres	Technology	Status
First Solar (Desert Quartzite)	CACA 49397	600	7,236	Solar PV	Pre-NOI (within Solar Energy Zone)
Solar Reserve LLC (Solar Reserve/Imperial)	CACA 49884	250	4,000	Solar Power Tower	Pre-NOI (within Solar Energy Zone)
Solar Reserve (Mule Mountain III)	CACA 50390	250	8,160	Solar Power Tower	Pre-NOI

<sup>3</sup> Projects were updated as of July 2014. However, for the cumulative analysis, the projects identified as of October 2013 were used.

**Table IV.25-3  
BLM Wind Development and First-in-Line<sup>1</sup> Solar Applications<sup>3</sup>**

Projects	BLM Serial Number	MW	Acres	Technology	Status
Pacific Wind (Iberdrola) (Silurian Valley Wind)	CACA 51581	160	6,720	Wind	Pre-NOI
BrightSource Sonoran West	CACA 51967	540	12,269	Solar Power Tower	Pre-NOI (within Solar Energy Zone)
EDF (Avalon Wind)	CACA 52309	TBD	275	Wind	Pre-NOI
Ridgeline Victory Pass	CACA 52344	20	260	Wind	Pre-NOI (within Solar Energy Zone)
Aurora Solar LLC (Iberdrola) (Silurian Valley Solar)	CACA 53685	200	7,218	Solar PV	Pre-NOI (Solar PEIS variance process)
Oro Grande (Celtic Energy Corp)	CACA 54709	100	1,059	Solar PV	Pre-NOI
EON Climate and Renewables West (North Peak Wind)	CACA 54138	126	15,386	Wind	Pre-NOI
LH Renewables LLC	CACA 54824	325	25,674	Wind	Pre-NOI
<b>Total</b>		<b>2,571</b>	<b>88,257</b>		

<sup>1</sup> More than one solar right-of-way application may be filed with the BLM for use of a particular public land site. These applications have priority based on date of application submittal. First-in-line projects are the projects that have the first application for use of a site and therefore priority over other applications that may exist on that site.

Source: BLM California Wind Applications (updated January 2014) and BLM California Solar Applications (updated January 2014): <http://www.blm.gov/ca/st/en/prog/energy/pendingapps.html>.

Table IV.25-4 presents the existing and reasonably foreseeable projects that could contribute to the cumulative effects in the Plan Area.

**Table IV.25-4  
Other Large Projects Within the DRECP Boundary<sup>4</sup>**

Projects	Acres	Status
<i>Cadiz Valley and Chocolate Mountains</i>		
Devers–Palo Verde #2 500 kilovolts (kV) Transmission Line Project	500 kV transmission line from Colorado River Substation to the Devers Substation resulting in 720 acres of permanent ground disturbance.	UC

<sup>4</sup> Projects were updated as of July 2014. However, for the cumulative analysis, the projects identified as of October 2013 were used.

**Table IV.25-4  
 Other Large Projects Within the DRECP Boundary<sup>4</sup>**

<b>Projects</b>	<b>Acres</b>	<b>Status</b>
Eagle Mountain Pumped Storage Facility	The project is a pumped storage hydroelectric project that will provide 1,300 MW of generating capacity. Project reservoirs would be formed by filling existing mining pits at the old Kaiser Mine near Desert Center. Project located on 2,220 acres.	FERC License issued June 2014. Final EIR released July 2013. SWRCB approved project in July 2013
<i>Imperial Borrego Valley</i>		
Canenergy Rockwood Project	Cellulosic biofuel ethanol/chemical manufacturing facility with 12,500 acres of energy cane crops to be grown in the Imperial Valley.	NOP
Herber Dunes State Vehicular Recreation Area General Plan	Directs the long-range development and management of a park by providing broad policy and program guidance. The goals of the General Plan aim to provide the framework to create an enjoyable recreational experience; to enhance OHV recreation opportunities; and to protect the State Vehicle Recreation Area's (SVRA) resources including plants, wildlife, and cultural resources.	Adopted General Plan December 2011
IID Path 42 Upgrade Project	Upgrading existing 35 miles of Path 42 230 kV transmission lines between IID's Coachella Valley Substation and Southern California Edison's Devers Substation from single to double conductor per phase.	Approved January 2014.
Keystone Planning Decision/Rancho Los Lagos	Approved a plan revision to 1,076 acres adjacent to the southern corporate limit of the city of Brawley, Imperial County. Proposed use of the area is for a mix of land uses including residential, commercial, business park, public infrastructure, public schools, and recreation.	Approved June 2012
Oat Pit Aggregate Surface Mine	850,000 tons of sand and gravel from Oat Pit Mine. Located on 280 acres.	ROD issued August 2011
Ocotillo Wells State Vehicular Recreation Area General Plan	Broad-based policy document that establishes a long-range vision and goals and provides direction on future types of improvements, services, and programs.	Developing alternatives – pre NOP and Scoping
Pyramid Construction at Padre-Madre	Production of mineral materials in eastern Imperial County, Pyramid was awarded 500,000 tons of waste rock from former Padre Madre gold mine site. Located on 40 acres.	ROD issued November 2011

**Table IV.25-4  
 Other Large Projects Within the DRECP Boundary<sup>4</sup>**

<b>Projects</b>	<b>Acres</b>	<b>Status</b>
Salton Sea Landfill Expansion Project/CUP #10-0002	An expansion of the permitted disposal area from 7.8 acres to 284 acres; Increase the maximum daily tonnage from 50 tons per day to 6,000 tons per day, estimated to be phased in over a period of 10 years.	Approved November 2013
Salton Sea Species Conservation Habitat Project	State project at the Salton Sea to implement conservation measures necessary to protect the fish and wildlife species dependent upon the Sea. Up to 3,770 acres of shallow water habitat ponds may be constructed depending upon funding availability.	FEIR Certified, groundbreaking expected mid 2014.
Sonny Bono Salton Sea Comprehensive Conservation Planning	The Sonny Bono Salton Sea National Wildlife Refuge Complex consists of the Sonny Bono Salton Sea National Wildlife Refuge (NWR) and the Coachella Valley NWR both located within the 8,000-square-mile Salton Basin of the Colorado Desert. The USFWS has prepared a Comprehensive Conservation Plan to guide the management of the refuges over 15 years and provide direction on conserving wildlife and their habitats. The CCP identifies wildlife-dependent recreational opportunities and includes a draft Integrated Pest Management Plan for the Complex and a draft Predator Management Plan and a hunt plan for the Sonny Bono Salton Sea NWR.	Draft Comprehensive Conservation Planning and Environmental Assessment (EA) published July 2013
Sugarcane and Sweet Sorghum-to-Ethanol, Electricity and Bio-Methane Facility	Located in the Mesquite Lake Specific Plan Area in Imperial County and includes both the electricity and bio-methane facility and 41,000 acres of sugarcane and 33,000 acres of sweet sorghum grown within Imperial County.	Approved Sept 2013
Sunrise Powerlink	500 kV/230 kV transmission line resulting in 255 acres of permanent disturbance from Imperial County to San Diego County.	OP
<i>Kingston and Funeral Mountains</i>		
Calnev Pipeline Expansion Project	Construction, operation, and maintenance of 233 miles of new 16-inch diameter pipeline from near Las Vegas, Nevada, to Baker, California, paralleling the existing system for most of the route. Project would result in 2,841 acres of ground disturbance.	Draft EIS March 2012

**Table IV.25-4  
 Other Large Projects Within the DRECP Boundary<sup>4</sup>**

<b>Projects</b>	<b>Acres</b>	<b>Status</b>
Desert Xpress Enterprises High Speed Rail	High-speed passenger train in San Bernardino County, California, and Clark County, Nevada. Project would result in 972 acres of permanent ground disturbance. Also located in Mojave and Silurian Valley and Pinto Lucerne Valley and Eastern Slopes.	EIS complete, ROW issued in 2011
Eldorado-Ivanpah Transmission Project	Transmission upgrade project between Eldorado and Ivanpah, projects would result in 420 acres of permanent ground disturbance. Project is principally within the I-15 highway corridor.	UC
I-15 Joint Port of Entry	State of California will construct and operate Joint Port of Entry on I-15 in the Ivanpah Valley that will include an Agricultural Inspection Facility and Commercial Vehicle Enforcement Facility. Port of Entry will be located on 133 acres.	UC
Amargosa Wild and Scenic River / Area of Critical Environmental Concern Planning	Bureau of Land Management is developing a Joint Management Plan for these two overlapping management units.	Currently in pre-NEPA scoping.
<i>Mojave and Silurian Valley</i>		
Razor OHV Recreation Area – Planning	California State Parks is preparing a pre-plan analysis report specifying the actions needed to develop and sustain OHV recreation opportunities in the area.	Began September 2013
<i>Owens River Valley</i>		
Digital 395 Project	A new 583-mile fiber network that mainly follows the U.S. Route 395 highway between Nevada and California. Also located in West Mojave and Eastern Slopes ecoregion subarea.	Findings of No Significant Impact (FONSI) issued August 2012, under construction
<i>Panamint Death Valley</i>		
Briggs Mine Expansion	Briggs Corporation would amend their Plan of Operations to develop the Goldtooth South Project that would require a 94-acre extension within their existing 2,363-acre permitted mine.	ROD issued 2012

**Table IV.25-4  
 Other Large Projects Within the DRECP Boundary<sup>4</sup>**

<b>Projects</b>	<b>Acres</b>	<b>Status</b>
<i>Pinto Lucerne Valley and Eastern Slopes</i>		
Proposed 29 Palms Training Land/Airspace Acquisition Project	The Marine Corps studied alternatives for training–land acquisition and accompanying Special Use Airspace. The proposed alternatives would expand the Marine Corps Air Ground Combat Center Twentynine Palms by 163,928 acres to the west and south.	ROD issued February 19, 2013; Marine Corps will commence using the area in 2015
SCE Coolwater-Lugo 500/220 kV transmission line	Construct approximately 65 to 75 miles of new high-voltage transmission lines from Coolwater Substation near Daggett to future Jasper Substation in Lucerne Valley and ending in the Lugo Substation in Hesperia.	Certificate of Public Convenience and Necessity provided to CPUC in August 2013
<i>Piute Valley and Sacramento Mountains</i>		
<i>Providence and Bullion Mountains</i>		
<i>West Mojave and Eastern Slopes</i>		
California High Speed Rail	The high-speed rail is a rail system from San Francisco to Los Angeles with extension to Sacramento and San Diego—a total of 800 miles. Initial operating section planned from Merced through Palmdale to the San Fernando Valley.	UC from Fresno to Bakersfield, further development planned and approved.
Comprehensive Groundwater Cleanup Strategy for Historical Chromium Discharges from PG&E’s Hinkley Compressor Station	Comprehensively contain and remediate the chromium plume from the historical chromium discharges from the PG&E Hinkley Compressor Station. PG&E is under orders from the Lahontan Water Board to stop plume expansion and clean up the chromium plume.	Ongoing – modifications to the ongoing program considered in 2013.
Eastern Kern County Land Acquisition	California State Parks is planning to acquire up to 59 privately owned parcels (approximately 28,275 acres) in eastern Kern County, California, from ReNu Resources LLC. The parcels are interspersed with lands owned by the BLM in the western Mojave Desert, approximately 20 miles north of Mojave and west of SR-14. Off-highway vehicle recreation occurs on many of the parcels, largely on designated roads and trails. The project comprises purchase and management of the parcels for the resource protection.	Approved October 2013

**Table IV.25-4  
Other Large Projects Within the DRECP Boundary<sup>4</sup>**

Projects	Acres	Status
High Desert Corridor (New State Route 138)	Caltrans and LA County Metropolitan Transportation Authority propose the High Desert Corridor, a 63-mile long east-west freeway/expressway, possible toll or rail facility, and possible bike path and green energy element.	NOP July 2013
LADWP Barren Ridge Transmission Project	New 76-mile 230 kV transmission line from the Barren Ridge Switching Station to Haskell Canyon area. Project would result in 70 acres of permanent disturbance.	ROD issued Sept 2012
LaPozz Mine	A new surface mining operation for pozzolan material located on 145 acres of mining claims administered by the BLM.	OP
Tehachapi Renewable Transmission Project	An estimated 173 miles of new and upgraded high-voltage electric transmission lines and substations to deliver electricity from new wind projects in eastern Kern County resulting in 171 acres of permanent ground disturbance.	UC

**Sources:** CEQANet; BLM El Centro Field Office: <http://www.blm.gov/ca/st/en/fo/elcentro/nepa.html>; BLM Ridgecrest Field Office: <http://www.blm.gov/ca/st/en/fo/ridgecrest.html>; Barstow Field Office: <http://www.blm.gov/ca/st/en/fo/barstow.html>; Needles Field Office: <http://www.blm.gov/ca/st/en/fo/needles.html>; Palm Springs Field Office: <http://www.blm.gov/ca/st/en/fo/palmsprings.html>; California State Parks: [http://www.parks.ca.gov/?page\\_id=24357](http://www.parks.ca.gov/?page_id=24357); Imperial County: <http://www.icpds.com/?pid=988>; USFWF Sonny Bono Salton Sea: [http://www.fws.gov/refuge/Sonny\\_Bono\\_Salton\\_Sea/what\\_we\\_do/planning.html](http://www.fws.gov/refuge/Sonny_Bono_Salton_Sea/what_we_do/planning.html); Marine Corps Twentynine Palms: <http://www.29palms.marines.mil/Portals/56/Docs/G4/LAS/Project%20Update%20Notice%20No%2017%20Leg%20Outcome%20Final.pdf>; [http://ohv.parks.ca.gov/?page\\_id=27211](http://ohv.parks.ca.gov/?page_id=27211).

## IV.25.2.2 Cumulative Projections

The following summarizes information regarding development trends and goals presented in county General Plans and General Plan Updates.

### IV.25.2.2.1 Counties Within the DRECP

#### Imperial County

According to the California Department of Finance, Imperial County's population is projected to grow from 175,389 in 2010 to 294,585 in 2040 (68%)(DOF 2013). As noted in the County of Imperial 2014-2021 Housing Element (County of Imperial 2013), the majority of this growth is expected to occur within the 11 townsites located in the unincorporated areas of Imperial County. These townsites are Bombay Beach, Desert Shores, Heber, Niland, Ocotillo/Nomirage, Palo Verde, Salton City, Salton Sea Beach, Seeley, and Winterhaven. Imperial County predicts that the largest growth sectors countywide in terms of jobs are

education, health, social services, agriculture, forestry, fishing and hunting, mining, and retail trade. The geothermal industry has also become an important part of the county's industrial base. One particularly large development is the Imperial Regional Center, a mixed-use commercial development with wholesale outlets, art galleries, a cinema, restaurants, outdoor performance center, artificial river, and a hotel and gas station (Varin 2010). The development is located on 77.64 acres of farmland within an unincorporated area of the county near Heber and 4.5 miles from the U.S./Mexico border (County of Imperial 2006). It is expected to contain 900,000 square feet of commercial facilities. Satellite imagery reveals that only a few structures have been constructed at this location.

Imperial County has created several "specific plan areas" where a Specific Plan, approved by the Imperial County Board of Supervisors, is required prior to any significant new use or development, except agricultural use. Specific Plans are defined as "planning tools' used to implement the General Plan for large development projects such as a planned residential community, large-scale commercial project, industrial park, etc., or to designate an area of the County where further studies are needed prior to development" (County of Imperial 2008: 13). Specific Plan Areas for Imperial County are summarized below.

The Gateway of the Americas Specific Plan Area is located adjacent to the International Boundary approximately 5 miles east of the city of Calexico and comprises approximately 1,700 acres. It is bordered on the west by the Ash Canal, on the north by a strip of land approximately 1,300 feet north of Highway 98, on the east by the Alamo River, and on the south by Mexico.

The Imperial County Glamis Specific Plan Area includes approximately 160 acres bisected by State Highway 78 approximately 27 miles east of the city of Brawley. This area is immediately adjacent to the Imperial Sand Dunes Recreation Area and noted for recreational activities at the Algodones Sand Dunes and Osborne Scenic Overlook, particularly off-road vehicle use. Future developments would relate to recreational land use and include retail and service commercial, motels, recreational vehicle and mobile home parks, and community facilities.

The Holtville Airstrip Specific Plan Area encompasses approximately 1,830 acres located 6 miles east of the city of Holtville. It is bordered by the East Highline Canal on the west. The Holtville Airstrip, used as an auxiliary air station by the U.S. Navy in WWII, is currently unattended. It does not contain any facilities and is seldom used. Imperial County proposes to allow development of a regional airport and support facilities and accommodate light-medium industrial uses as well as community facilities and agricultural packing and processing services.

The Mesquite Lake Specific Plan Area is located between the cities of Imperial and Brawley and encompasses approximately 7,360 acres bounded on the west by State Route 86, on the north by Carey Road, on the east by Highway 111, and on the south by Harris Road. This area could support agriculture-related uses including packing and processing, waste processing, equipment manufacturing and maintenance, and the production and distribution of fertilizers and pesticides. This area could also support geothermal development.

The Heber Specific Plan Area encompasses approximately 4,834 acres between Jasper and Willoughby Roads to the south, SR-86 to the west, McCabe Road to the north, SR-111 to the east, and a 1,320-foot strip of land east of SR-111 stretching from Correll Road and Heber Road. Imperial County proposes that this area support mixed-use development, including commercial, residential, industrial, and other employment-oriented development. There is a plan to establish a 40-acre or larger regional park along McCabe Road.

The Wonderstone Aggregate Specific Plan Area encompasses approximately 721.33 acres located about 2 miles west of the community of Salton Sea Beach in the northwestern portion of Imperial County. Future development in this area would center on the mining, processing, production, and storage of aggregate products including hot mix asphalt and Portland cement concrete.

The General Plan notes that Imperial County is and will continue to be a predominantly agricultural area.

### **Inyo County**

According to the California Department of Finance, Inyo County's population is projected to grow from 18,528 in 2010 to 22,009 in 2040 (19%) (DOF 2013). As noted in the Inyo County Housing Element (Inyo County Planning Department 2009), the majority of this growth is expected to occur in the unincorporated areas of the county. The county seeks to concentrate this new growth within and contiguous to existing communities such as Bishop, Big Pine, Independence, and Lone Pine (Inyo County Planning Department 2013a). Inyo County hopes to acquire several sites currently owned by Los Angeles Department of Water and Power to facilitate the development of affordable housing (Inyo County Planning Department 2009, 2013b). The largest employers in the county are within the service sector, retail trade, and public administration (Inyo County Planning Department 2009). The county expects growth in tourism-related employment and wants to market Inyo County as a tourist destination (Inyo County Planning Department 2013c). Additional areas of growth and economic development are projected to occur in agriculture, renewable energy projects, and natural resources extraction (Inyo County Planning Department 2013d).

In addition to the large renewable energy facilities proposed in Inyo County and summarized in Table IV.25-1, the Fort Independence Indian Community of Paiute Indians proposes to develop a combination Class II and Class III Gaming Complex and associated full service hotel structure within the western portion of the 360-acre Fort Independence Indian reservation along U.S. 395. The complex would also include a conference center, multipurpose event center, and related facilities (Inyo County Planning Department 2014c).

### **Kern County**

Kern County's population is projected to grow from 841,146 in 2010 to over 1.6 million in 2040 (90%) (California DOF 2013), with the majority of growth projected in the Greater Bakersfield area (Center for Rural Entrepreneurship 2011). The Tehachapi Mountain communities have a projected growth of 50% to 60% by 2040, and western Kern may see modest growth of 5% to 10% (Center for Rural Entrepreneurship 2011). From 2011 to 2040, increases are projected for most employment sectors, with a doubling of professional services and health and education employment. Construction employment, however, is projected to decrease from current levels (California DOT 2011).

### **Los Angeles County**

According to the California Department of Finance, Los Angeles County's population is projected to grow from 9,824,906 in 2010 to 11,243,022 in 2040 (15%) (DOF 2013). As noted in the Los Angeles County General Plan, the largest growth sectors countywide in terms of jobs are professional, scientific and technical services, health services, and retail trade. Specific industries that have the most potential to contribute to the economy include entertainment, fashion, aerospace and analytical instruments, trade, education and knowledge creation, publishing and printing, metal manufacturing, biomedical, and tourism (Los Angeles County 2013a). The General Plan outlines several "opportunity areas" organized into the following types: transit centers, neighborhood centers, corridors, industrial flex districts, and rural town centers. In addition, Los Angeles County has created 11 "planning areas" that divide the unincorporated areas of Los Angeles County into sections based on geographical location and similarities in land use and economy. The most relevant planning areas for Los Angeles County were reviewed.

### **Riverside County**

According to the California Department of Finance, Riverside County's population is projected to grow from 2,191,886 in 2010 to 3,462,256 in 2040 (58%) (DOF 2013). As noted in the County of Riverside General Plan (Riverside County Planning Department 2008), the majority of this growth is expected to take place in the western portion of the county, which currently contains the largest portion of the population. Approximately 57,000 new

housing units are needed to accommodate anticipated population growth in unincorporated areas of Riverside County from 2006 to 2014. Riverside County predicts that the largest growth sectors countywide in terms of jobs are business related services, wholesale trade, state government, and manufacturing. Riverside County expects 543,000 job openings from 2006 to 2014 (Riverside County Planning Department 2008). As described in the General Plan, one future project expected to fuel additional development in the county is the Oasis Transit System, which entails localized transit loops centered around areas of compact development, and tied in with regional transit corridors and the county's Metrolink system (Riverside County Planning Department 2013a). These areas of compact development would contain a mix of uses designed to serve each community. Riverside County has created 11 "area plans" that divide the unincorporated areas of Riverside County into sections based on geographical location and similarities in land use and economy. Planning projections for the most relevant planning areas in Riverside County were used in this cumulative effects analysis.

The Desert Center Area Plan is located in the middle of the Colorado Desert in eastern Riverside County and lies approximately 55 miles east of the city of Coachella and 55 miles west of the city of Blythe. As stated in the Desert Center Area Plan (Riverside County Planning Department 2011f), this is an area generally lacking in infrastructure and with little urban and suburban development. Economic activities are centered around the Desert Center-Rice Road interchange, which includes commercial and industrial uses designed to serve the needs of highway travelers. The Lake Tamarisk community includes residential housing, a lake, and a golf course. Two policy areas are of particular interest in terms of future growth within the Desert Center Area Plan. The first policy area is the Eagle Mountain Landfill and Townsite, home of the former 5,500-acre Kaiser iron ore mining facility and adjacent community that provided housing and services for workers and their families. The Eagle Mountain Pumped Storage Facility is also proposed for this area and the Federal Energy Regulatory Commission has issued a license for this project. The second policy area is Desert Center, located between the existing Desert Center and the Lake Tamarisk community. This area has the potential to accommodate limited future expansion in residential, commercial, recreational, and tourist-oriented uses. Many renewable energy projects are proposed or already approved in this area.

The Palo Verde Valley Area Plan is situated between the Palo Verde Mesa to the west and the Colorado River to the east. It borders Imperial County to the south, and desert lands border the area to the north and west. The Palo Verde Valley Area Plan does not share a border with any other area plan in Riverside County. Highly irrigated lands are in the eastern and southern parts of the county and arid desert to the west and north. According to the Palo Verde Valley Area Plan (Riverside County Planning Department 2011g), the city of Blythe is the focus of development in Palo Verde Valley. Major sources of employment

are the Chuckwalla and Ironwood State Prisons, which combined house about 8,000 inmates and have about 2,000 employees (2011g: 11). Two policy areas are of particular interest in terms of future growth within the Palo Verde Valley Area Plan. The first is the area along the Colorado River, which has the potential for commercial tourist developments such as river-oriented hotels, fishing camps, marinas, and resort parks, along with residential developments such as second homes and/or housing for workers at the various tourist facilities. The second policy area is the Wiley's Well Road policy area located adjacent to I-10, west of Nicholls Warm Springs and north of the state prisons. This area could accommodate additional commercial tourist services to serve travelers.

### **San Bernardino**

According to the California Department of Finance, San Bernardino County's population is projected to grow from 2,038,523 in 2010 to 2,988,648 in 2040 (47%) (DOF 2013). As stated in the County of San Bernardino General Plan, most of this growth is expected to occur in the western portion of the county, much of which is not within the DRECP (CSBLUSD 2007a). The majority of economic development in San Bernardino County is expected to occur in construction and maintenance occupations, as a lot of building activity is taking place. Several renewable energy projects have been proposed for San Bernardino County. As of December 26, 2013, seven projects were under review, ten were approved but not yet constructed, and six had been constructed (CSBLUSD 2013).

In terms of land use, Resource Conservation comprises the majority (55.98%) of designated land uses in the county while Residential Land Use comprises the second largest land use designation (37.92%). County land use designations for the spheres of influence of the largest cities in San Bernardino County include a total build-out potential of 148,932 dwelling units, 109 million square feet of commercial space, and 302.4 million square feet of industrial space (CSBLUSD 2007a: 11-25 to 11-26). According to the city land use designations for the spheres of influence of the largest cities in San Bernardino County, the total build-out potential is 124,853 dwelling units, 72.3 million square feet of commercial space and 244.8 million square feet of industrial space (CSBLUSD 2007a: 11-26).

The County of San Bernardino General Plan divides the county into three planning regions, based on geographic location – Valley, Mountains, and Desert – and outlines policies drafted specifically for each of these regions (CSBLUSD 2007a). Both the Valley and Mountain regions are outside of the DRECP Area.

The Desert Planning Region contains a large portion of the Mohave Desert and comprises 93% (18, 735 square miles) of the land within San Bernardino County (CSBLUSD 1007a: 1-15 to 1-16). Little population growth is expected in this region from 2010 to 2020.

## **San Diego County**

As noted in the San Diego General Plan, San Diego expects the majority of growth to be in residential, commercial, and industrial development (County of San Diego 2011a). The County predicts that over 232,000 future homes will be constructed, and that 20% of that construction will take place in the western communities. According to the California Department of Finance, San Diego County's population is projected to grow from 3,102,745 in 2010 to 3,749,240 in 2040 (21%) (DOF 2013). The county recommends that future growth is directed to areas where existing or planned infrastructure and services can support growth and to locations within or adjacent to existing communities. They expect to spend \$4.5 billion on highway improvements, primarily interstate improvements on an outer loop that includes State Routes 67, 94, and 125 (County of San Diego 2011b). Plans are being made to expand the High-Speed Rail Alignment via the I-15 corridor, which would link downtown San Diego to Escondido, Riverside County, and Los Angeles. As stated in the County of San Diego Bicycle Transportation Plan (2003), the county also proposes the creation of nine additional bikeways that will ensure bikeway connectivity between jurisdictional boundaries. The County also relies on extensive habitat management planning in order to provide for conservation in a manner that still allows for development.

### ***IV.25.2.2 Counties Along the Transmission Outside the Plan Area***

#### **Alameda County**

The northern terminus of the Central Valley corridor is located in northeast Alameda County, just south of Interstate 580 and approximately 6 miles east of the Livermore urban boundary. This portion of the County falls under the East County Plan Area, and is designated for wind resources. In November 2000 the Alameda County electorate approved the Save Agriculture and Open Space Lands Initiative, which amended portions of the plan to change some land designation from Urban Reserve to Large Parcel Agriculture, reducing the development in some areas of the Plan Area. The majority of the East County Plan Area is designated parklands, resource management, and large parcel agriculture (Alameda County 2000).

#### **Fresno County**

In Fresno County, the Central Valley corridor continues to extend southeast to northwest, mostly along the west side of Interstate 5. The route skirts agricultural lands, and is generally in the base of the foothills of the Diablo Range. The 2000 General Plan designations for this western portion of the county include Westside Rangeland and Coalinga Regional Plan Area. The rangeland designation provides for grazing and other agricultural operations, mining, oil and gas development, wildlife habitat, various recreational activities, and other

appropriate open space uses. As shown in a map from the County of Fresno's Department of Public Works and Planning Department, the western portion of the county is a popular location for solar power development (County of Fresno 2013a). Meanwhile, the Westside Freeway Corridor overlay provides for designated I-5 interchanges that cater to long distance freeway users and agriculture-related enterprises (County of Fresno 2013b).

Fresno County's population is projected to grow from 932,377 in 2010 to over 1,397,000 in 2040 (50%) (California DOF 2013). According to the County of Fresno, its population is projected to grow from 769,700 in 1996 to 1,113,785 in 2020 (45%) (County of Fresno 2013c). The majority of this growth is expected to occur in the Fresno metropolitan area (2013c). As stated in the General Plan, the majority of jobs in Fresno County are in agriculture and construction (County of Fresno 2013d). Fresno County has a high unemployment rate and the county seeks to promote economic development and job growth by retaining and expanding existing businesses, encouraging the development of value-added businesses, attracting new industry, improving the skill of the workforce, and facilitating the creation of higher-paying jobs (County of Fresno 2013d).

Coalinga is located at the junction of Highway 33 and Highway 198, with 3,858 acres within city limits. Its proposed 6,301-acre sphere of influence extends over 2 miles to the east and 2 miles to the north of the city limits. As noted in the City of Coalinga General Plan, the city expects to experience significant population growth (98%) from 11,217 in 2005 to 22,188 in 2025. To accommodate this predicted growth, several development proposals featuring residential components are currently proposed in the city (Coalinga 2009).

### **Kern County**

In Kern County, the Central Valley corridor commences at the Whirlwind Substation, west of Rosamond in the Antelope Valley. It trends northwest across the Tehachapi Mountains, and traverses the San Joaquin Valley to south of the Bakersfield metropolitan area. From Buttonwillow, the corridor heads northwest along I-5. In the Central Valley portion of the County, the study area mostly crosses agricultural lands, passing the census-designated places of Buttonwillow (at the junction of Highway 58 and I-5) and Lost Hills (on Highway 46, west of I-5). The 2010 Census recorded populations of 1,508 and 2,412, respectively. The economy of these towns is largely agricultural (Buttonwillow Chamber of Commerce 2013). The Hydrogen Energy California project, an integrated gasification combined cycle power generating facility, is proposed in the hills south of Buttonwillow (CEC 2013a). The Tule Elk Reserve State Park is also located south of Buttonwillow.

## **Kings County**

In Kings County, the Central Valley corridor extends southeast to northwest on the eastern side of I-5. It passes through two urban areas, Kettleman City and Avenal. Per the Kings County 2035 General Plan, agriculture would comprise 84% of land use in Kings County, including lands just east of I-5 beyond city jurisdiction. The county would continue to direct urban growth within fringe areas of cities for annexation, and would accommodate new unincorporated growth within “Community Districts” served by special districts (Kings CDA 2010). In addition, the Naval Air Station Lemoore is situated approximately 18 miles northeast of Avenal, west of the city of Lemoore (Kings COG 2011). The Santa Rosa Rancheria, located in Lemoore, is home to approximately 500 Tachi Yokut Indians residing on 1,535 acres of tribal land (Kings CC 2010). The County’s population is projected to grow from 152,656 in 2010 to over 235,000 in 2040 (54%) (California DOF 2013). The majority of this population growth is likely to occur within the incorporated cities of Hanford and Lemoore (Kings CC 2010). As noted in the 2009-2014 Housing Element, local government, trade/transportation/utilities, agriculture, retail trade, and education/health services are expected to have the largest job growth during this period (Kings CC 2010).

Within Kings County, the Kettleman City Community Plan directs residential growth to occur in phases, first to the north and west, and then to the east of the existing developed area. The three phases would include 5,504 new housing units. An agricultural/open space buffer would be maintained along the residential boundary. This community plan would also establish a new 8.5-acre downtown commercial area on the south side of the city, along Highway 41 (Kings CDA 2010).

## **Los Angeles County**

In addition to the information provided in Section IV.25.2.2.1 for Los Angeles County, several community and subregional plans are along the transmission corridors. East San Gabriel Valley Planning Area is located south of the Angeles National Forest, north of the Orange County border, and east of Interstate 605. The planning area’s eastern border is the San Bernardino County line. The biggest economic sectors in this area are professional and business services, retail, educational and health services, and international trade. The Los Angeles County General Plan identifies three communities with the most opportunity areas for the East San Gabriel Valley Planning Area—Avocado Heights, Charter Oak, and Covina Islands (Los Angeles County 2013b). These communities hold the potential for redevelopment projects and improvements of pedestrian corridors.

Gateway Planning Area is located in the southeastern portion of the county. The eastern border of the planning area is the Orange County line. There is little vacant land in this area and little room for additional growth. It has the largest concentration of manufacturing jobs

in the county and is a hub for wholesale, trade, warehousing, and logistics. The Los Angeles County General Plan identifies two communities with the most opportunity areas for the Gateway Planning Area—Rancho Dominguez and West Whittier–Los Nietos (Los Angeles County 2013b). These communities are recommended for community revitalization projects, additional parks, and redevelopment.

West San Gabriel Planning Area is bordered on the north by Angeles National Forest and Downtown Los Angeles and the Gateway Planning Area comprise the southern border. The eastern border of the planning area is I-605. This is an employment rich area; two of the main employers are the Jet Propulsion Laboratory and the California Institute of Technology. This area also serves as a gateway for goods movement infrastructure heading east. The Los Angeles County General Plan identifies three communities with the most opportunity areas for the West San Gabriel Planning Area—Altadena, East Pasadena–East San Gabriel, and South Monrovia Islands (Los Angeles County 2013b). These communities have the potential for commercial growth, transit-oriented development, and improvements to pedestrian and bicyclist facilities.

### **Merced County**

In Merced County, the Central Valley transmission corridor runs in the foothills of the Diablo Range, crossing the Los Banos Reservoir and the O’Neill Forebay of the San Luis Reservoir. The 2030 General Plan Draft primarily designates this land as foothill pasture, with a few agricultural portions. Urban areas along the corridor include Santa Nella as well as urban zoning for the proposed Fox Hills and Villages of Laguna San Luis developments (Merced County 2012). The county’s population is projected to grow from 255,937 in 2010 to over 436,000 in 2040 (70%) (California DOF 2013). Based on studies of past population growth trends for Merced County, the majority of this new population growth will occur in the incorporated cities, particularly Los Banos (Merced County 2010). Agriculture serves as the foundation of Merced County’s economy and the county ranks as one of California’s top five producers of milk and cream, chickens, alfalfa, cattle and calves, silage, and tomatoes. There are few other employers outside agriculture, and the county wants to diversify its economy and attract new industries while continuing to expand the agricultural industry (Merced County 2012).

### **Riverside County**

In addition to the information provided in Section IV.25.2.2.1 for Riverside County, several community and subregional plans are along the transmission corridors. The most relevant planning areas for Riverside County were consulted for this project.

Eastern Coachella Valley Area Plan is located within the southeast portion of the Coachella Valley, stretching to the Imperial County line on the south. As stated in the Eastern Coachella Valley Area Plan (Riverside County Planning Department 2012a), most of the future growth in this region is expected to occur in the agricultural sector. A community center has been designated at the northwestern edge of the community development area in Mecca. A community center is a method of concentrating development to achieve community focal points, encourage a mix of activities, and promote economic development, etc. The community center in Mecca could host a mix of residential, commercial, public facility, and recreation uses to serve local residents.

Western Coachella Valley Area Plan is surrounded by the mountainous area of the Riverside Extended Mountain Area Plan (REMAP) to the west and southwest and San Bernardino County and the Joshua Tree National Park to the northeast. The Western Coachella Valley Area Plan proposes a mix of lower density residential land uses near urban centers (Riverside County Planning Department 2012b). Community development would be focused along I-10 and Pierson Boulevard and Dillon Road Corridors. The city of Rancho Mirage is viewed as having significant development potential. There are 4,500 acres of land in West Coachella Valley designated for industrial development, and most are located along the I-10 corridor.

The Pass Area Plan is situated in the narrow gap between the San Bernardino and San Jacinto mountains. According to the Pass Area Plan (Riverside County Planning Department 2011a), San Geronio Pass has been designated a Wind Energy Policy Area as it is one of the best areas in the nation for wind development.

The Reche Canyon/Badlands Area Plan is adjacent to the Lakeview/Nuevo Area Plan, and the plans for Mead Valley, March Air Reserve Base, Highgrove, The Pass, and San Jacinto Valley. As noted in the Reche Canyon/Badlands Area Plan (Riverside County Planning Department 2011b), the land in this area is used primarily for agricultural, rural, residential, commercial, mining, public facility, and recreational uses. Mining operations are expected to continue at the Valley Rock and Sand Company on Jack Rabbit Road.

The city of Perris borders the Lakeview/Nuevo General Plan on the west and the city of San Jacinto borders this area plan on the east, while Lake Perris is located immediately to the north. According to the Lakeview/Nuevo General Plan (Riverside County Planning Department 2011c), two adjacent areas designated as community centers are located to the west of San Jacinto River.

San Jacinto Area Plan is located near the massive territory of the Riverside Extended Mountain Area Plan (REMAP). According to the San Jacinto Area Plan (Riverside County Planning Department 2011d), agriculture is integral to the economy and culture of this area and

future agricultural growth should be promoted. The San Jacinto Area Plan also notes that growth should be focused in the East Hemet and Valle Vista areas. Growth of recreational facilities, tourist-oriented facilities, and commercial services are also expected to develop in the future around the recently built Diamond Valley Lake, a reservoir with 800,000 acre-foot capacity located in the southwestern corner of the San Jacinto Area Plan.

The Harvest Valley/Winchester Area Plan encompasses only unincorporated territory, but the cities of Perris and Hemet frame this sprawling 32,000-acre valley on the west and east, respectively. The massive Diamond Valley Lake dominates the southeastern portion of the Harvest Valley/Winchester area. As stated in the Harvest Valley/Winchester Area Plan and described in the San Jacinto Area Plan (Riverside County Planning Department 2011e, 2011d), the area surrounding Diamond Valley Lake holds the potential for future development associated with tourism and recreational activities. Two future community centers are planned for the San Jacinto area—one in the community of Winchester that would be designed with an “Old West” theme and the second would be located west of Winchester Road and south of Holland Road. This latter community center would serve as a downtown area for future developments to the west and could accommodate an entertainment center intended to capitalize on the proximity of Diamond Valley Lake and its many recreational opportunities.

### **San Bernardino County**

In addition to the information provided in Section IV.25.2.2.1 for San Bernardino County, several community and subregional plans are along the transmission corridors. Three specific plans and the most pertinent area plan for San Bernardino County are described below.

The Glen Helen Specific Plan includes 3,400 acres of unincorporated territory in the Devore area, south of the intersection of the I-15 and I-215 freeways. This Specific Plan provides for the following development and open space potential: 260 acres of industrial development along Cajon Boulevard and Kendall Drive, 100 acres of traveler services at freeway interchanges and business support services for nearby employees, and 260 acres of destination entertainment and recreation uses within private and public lands (CSBLUSD 2005).

The Kaiser Commerce Area Specific Plan is a 468-acre project located on a portion of the site of the former Kaiser Fontana steel mill in the southwest portion of San Bernardino County, near the interchange of I-10 and I-15 (CSBLUSD 1999: 1-1). Following the decline of steel-making activities at the mill, this area became very blighted and fell into disrepair, which discouraged development along the I-10 and I-15 corridors. The county wants to convert the former steel mill to productive status and revitalize the site for a variety of

transportation and commercial uses. Development of private industry involved in recycling is also proposed for this area.

### **San Diego County**

In addition to the information provided in Section IV.25.2.2.1 for San Diego County, several community and subregional plans for San Diego County are along the transmission corridors. As stated in the Alpine Community Plan (County of San Diego 2011c), a small commercial and residential development is planned south of Alpine Blvd. in the vicinity of South Grade Road. It will cover 16.5 acres and contain 225 single-family residential units. Alpine also expects to create additional park facilities. As noted in the Crest/Dehasa/Harbrison Canyon/Granite Hills Community Plan (County of San Diego 2011d), population is expected to grow from 10,507 in 2010 to 11,813 in 2030. The community of Jamul-Dulzura is primarily rural and little population growth is expected.

According to the Jamul-Dulzura Subregional Plan (County of San Diego 2011e), the community plans to expand local recreational sites in Central Jamul, Deerhorn Valley Area, and Dulzura. As stated in the Lakeside Community Plan (County of San Diego 2011f), Lakeside expects gradual residential growth and commercial development that will serve local needs and take place within the existing Lakeside Town Center. The majority of the residential and commercial developments are expected to occur in several Specific Plan Areas. One example is East County Square, a 377-acre area located on the southeast side of I-8 and Camino Cañada Interchange. The community of Lakeside predicts that a shopping center and 200 single-family dwelling units will be built there. The Lakeside Community Plan also plans to widen existing major roads.

Mountain Empire is predominantly rural and according to the Mountain Empire Regional Plan (County of San Diego 2011g), the population is expected to increase from 5,815 in 2010 to 8,844 in 2030 (52%). New growth is encouraged to take place within existing “village” areas and “town centers.” In general, the community of Mountain Empire does not expect much future agricultural or industrial growth. However, the city of Tecate, Mexico, is being proposed as an International Trade Community with commercial and industrial uses to provide goods and services that complement the needs of its residents.

### **San Joaquin County**

In San Joaquin County, the Central Valley corridor continues southeast to northwest along the foothills of the Diablo Range west of Interstate 580. This southwestern portion of the County is designated for grazing and includes the Tracy Hills portion of the city of Tracy (San Joaquin County 1992). In addition, the Mountain House Community Services District is located 5 miles west of Tracy, north of I-580. The county’s population is projected to grow

from 686,588 in 2010 to over 1.2 million in 2040 (75%) (DOF 2013). In recent years, Tracy has had a higher population growth rate than San Joaquin County as a whole (San Joaquin Partnership 2012). The employment areas in San Joaquin County with the most growth are in the retail trade, administrative, educational and health care services, and finance, insurance, and real estate (San Joaquin County 2010).

The city of Tracy is located at the junction of Interstates 580 and 205, with the Tracy Hills Specific Plan Area on the southwest side of I-580. The Specific Plan covers 6,175 acres and includes approximately 2,700 acres within city limits planned for residential, commercial, office, industrial, and recreational land uses (City of Tracy 2011). The approximately 3,550 outer acres in the sphere of influence are planned as open space for habitat conservation and grazing.

### **Stanislaus County**

In Stanislaus County, the Central Valley corridor continues southeast to northwest along the foothills of the Diablo Range. The route is almost entirely on the west side of I-5. Developed areas in the region are clustered along Highway 33, which runs parallel to the east of I-5. They include the cities of Newman and Patterson and the census-designated Crows Landing. Stanislaus County's population is projected to grow from 515,505 in 2010 to almost 760,000 in 2040 (47%) (DOF 2013). According to the Stanislaus County Inter-Regional Partnership, the majority of future growth in Stanislaus County will take place within the limits of incorporated cities, particularly Modesto and Turlock (2013).

Newman is located approximately 25 miles south of Modesto, just north of the Merced County border. The city proposes a 3,611-acre sphere of influence on all sides, with the primary sphere of influence (land that is expected to be annexed in ten or so years) primarily on the north side of town (City of Newman 2007).

Patterson currently extends from the California Aqueduct (just east of I-5) to east of Highway 33. The Land Use Element of the city's General Plan designates areas surrounding the city for additional development. The expansion areas are to the east and south, between the Delta Mendota Canal and the California Aqueduct and in the foothills to the west between Del Puerto Canyon Road and I-5 (City of Patterson 2010).

## **IV.25.3 Cumulative Impacts Analysis**

### **IV.25.3.1 Introduction**

The DRECP EIR/EIS has identified the Plan Area, portions of the California Desert Conservation Area (CDCA) outside the Plan Area, and areas outside the Plan Area in proximity to DRECP-related transmission as the geographic areas for analysis of cumulative effects.

Climate change is a global issue, so its geographic extent is global. Tables IV.25-1 through IV.25-4 list projects primarily within the DRECP boundaries. For the areas outside the DRECP boundary, cumulative projections are considered.

The temporal scope of the cumulative impacts, unless specifically stated otherwise in the resource analysis, is the life of the DRECP—from adoption of the DRECP through 2040.

Because the analysis uses a broad geographic area of extent, the past, present, and future foreseeable projects and projections are the same for all alternatives. However, because the Development Focus Areas (DFAs) and reserve design are different for each alternative, the analysis calls out distinctions by alternative as appropriate.

### **IV.25.3.2 Air Quality**

The geographic scope for cumulative impacts to air quality includes the four air basins within the DRECP: the Great Basin Valleys, Mojave Desert, Salton Sea, and San Diego. The air basins along the transmission corridors outside the Plan Area are also considered part of the geographic scope.

***Impact AQ-1: Plan components would generate short-term air emissions that violate any air quality standard or contribute to an existing or projected air quality violation.***

As discussed in Chapter IV.2, development of the renewable energy projects and transmission permitted under the DRECP and the transmission required outside the Plan Area would result in an increase in construction dust and exhaust emissions from construction equipment and vehicles. This increase could violate or contribute to an existing violation of air quality standards, which would be an air quality impact during the limited or short-term phases of construction. The sources of construction dust and types of motor vehicle or off-road equipment sources would be similar at all development sites, as all sites would require mobilizing construction equipment and crews and creating permanent ground disturbances for various development activities. Construction-phase emissions would be distributed across the DFAs and along the transmission corridors, and would occur gradually and at different times until all individual projects are developed. For each specific project, a wide range of construction-phase emissions would occur, depending on, among other factors, each project's particular accessibility, phasing or sequencing of activity, and the fleet of construction equipment used.

All alternatives would include development within air basins that are state nonattainment areas for ozone and PM<sub>10</sub>. Construction activities under any alternative would generate emissions that could contribute to the existing ozone and PM<sub>10</sub> violations. Therefore, all of the air basins available for renewable energy and transmission development under the DRECP would experience short-term air quality impacts during construction activities.

In addition to contributing to existing violations of the state ambient air quality standards for ozone and PM<sub>10</sub>, construction activities would cause PM<sub>2.5</sub> impacts in some areas. Specifically, the San Bernardino County portion of the federal Southeast Desert Modified Air Quality Management Area for ozone is classified as a PM<sub>2.5</sub> nonattainment area, as is the portion of the Plan Area within the San Diego Air Basin, and the air basins along the transmission Outside the Plan Area. Construction activities would generate emissions that would contribute to the existing PM<sub>2.5</sub> violations in these areas.

Construction activities would also occur in areas in federal nonattainment areas that would experience a short-term air quality impact from an increase in dust emissions and vehicle and equipment exhaust emissions due to renewable energy permitted under the DRECP.

The cumulative projects listed in Tables IV.25-1 through IV.25-4 and the development projected in county General Plans (see Section IV.25.2) would result in construction activities similar to those described for the projects permitted under the DRECP. This is because many of the projects listed in Tables IV.25-1 through IV.25-4 are renewable development or transmission so they would have similar types of impacts as described for the DRECP. The construction of cumulative projects would also contribute to existing ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> violations because they are within federal and state nonattainment areas. However, it is unlikely that the majority of the projects listed in Tables IV.25-1 through IV.25-4 would be under construction at the same time as the renewable energy permitted under the DRECP. Only a few cumulative projects, including the California High-Speed Rail and the residential and commercial development projected inside and outside the DRECP, would combine with the construction emissions from projects permitted under the DRECP to result in a cumulative impact caused by short-term air emissions and violations of the state ambient air quality standards for ozone and PM<sub>10</sub>.

All cumulative projects listed in Tables IV.25-1 through IV.25-4 would require environmental permitting and would likely incorporate mitigation measures to reduce the short-term air emissions. Cumulative project mitigation would likely be similar to mitigation measures in the following manner: AQ-1a would require developers to prepare and comply with dust abatement plans; AQ-1b would require construction equipment to meet the Tier 3 or Tier 4 California Emissions Standards for Off-Road Compression-Ignition Engines; AQ-3 would use electricity to power vehicles and equipment; and AQ-1d would mitigate emissions on federally administered lands in federal nonattainment areas below the applicability or “de minimis” levels in the general conformity rule. Such measures would reduce the impact to the extent feasible.

***Impact AQ-2: Long-term operations air emissions would violate air quality standards or contribute to air quality violations.***

All of the renewable energy technologies and transmission lines permitted under the DRECP would include operations and maintenance activities. Routine upkeep of the site, security patrols, employee commuting trips, and vegetation removal cause dust emissions from vehicles or equipment that travel on unpaved surfaces. These activities also increase the use of portable equipment and motor vehicles that emit the products of fuel combustion. Because these activities would occur within both state and federal nonattainment areas, emissions from the operations and maintenance activities would exacerbate the nonattainment conditions. For some projects, operation would require installation and use of new stationary or portable sources. Emissions from these sources could violate or contribute to an existing violation of air quality standards.

The cumulative projects listed in Tables IV.25-1 through IV.25-4 would require similar operation and maintenance, in particular the renewable energy projects listed in Tables IV.25-1 through IV.25-3. The upkeep and maintenance activities would cause dust emissions from vehicles or equipment that travel on unpaved surfaces and increase the use of portable equipment and motor vehicles that emit the products of fuel combustion. The population growth and urbanization highlighted in the general plan projections would also contribute to dust emissions during construction of the residential or commercial development and an increased use in fuel combustion and vehicle travel. This is particularly true if the residential development is not in close proximity to urban job centers and requires an increase in vehicle miles traveled.

Emissions from renewable and nonrenewable sources could violate or contribute to an existing cumulative violation of air quality standards. The emissions caused by the cumulative projects would combine with the emissions from the renewable projects and transmission permitted under the DRECP over the life of the project, and would result in a cumulative impact due to long-term operations air emissions. Any cumulative project listed in Tables IV.25-1 through IV.25-4 would require environmental permitting and would likely incorporate mitigation measures to reduce the long-term air emissions. Mitigation would be similar to AQ-2a to use best available emissions controls and AQ-2b, to mitigate emission sources due to project operations.

***Impact AQ-3: Operations would expose air quality sensitive receptors to adverse air pollutant concentrations.***

All of the plan components from the renewable energy technologies and transmission permitted under the DRECP would result in exhaust emissions from vehicles and equipment, dust emissions from activity on unpaved surfaces, and in some cases new stationary or

portable sources of emissions. During the site selection and project permitting processes, adverse health impacts can be avoided by controlling emissions and providing sufficient separation between new sources of air pollution and nearby receptors. Depending on the development sites, new emissions sources occurring with the renewable energy projects could be close enough to expose sensitive receptors to adverse air pollutant concentrations.

The areas available for renewable energy development under all alternatives surround multiple cities with residences, hospitals, and schools including Tehachapi, California City, Lancaster, Barstow, Adelanto, Victorville, Blythe, Calipatria, Brawley, Imperial, Holtville, El Centro, and Calexico. Areas along the transmission Outside the Plan Area would also be near cities with residences, hospitals, and schools. Because the specific renewable energy project sites are not known, sensitive receptors could experience adverse air pollutant concentrations.

The cumulative renewable projects listed in Tables IV.25-1 through IV.25-3 would result in exhaust emissions from vehicles and equipment, dust emissions from activity on unpaved surfaces, and in some cases new stationary or portable sources of emissions. Some of the projects listed in Tables IV.25-4 would also result in exhaust emissions from operations, such as the transmission lines and mining operations. The development projects listed in Table IV.25-4 and future anticipated development described in Section IV.25.2.2 would result both in increased emissions and in an increased number of sensitive receptors, such as those described for the Keystone Planning Decision/Rancho Los Lagos. Emissions from the cumulative list of projects could combine with those from projects permitted under the DRECP to result in a cumulative impact on sensitive receptors.

Mitigation measures similar to AQ-3a would require new stationary air pollution point sources to be located an adequate distance from residential areas and other air quality sensitive land uses and would reduce this impact.

***Impact AQ-4: Operations would conflict with or obstruct implementation of applicable air quality plans.***

All of the plan components from the renewable energy technologies and transmission permitted under the DRECP would result in project-related emissions that could conflict with applicable air quality plans in nonattainment areas if subsequent projects do not fully implement the control strategies of the applicable air quality management plan. The projects listed in Tables IV.25-1 through IV.25-4 would similarly conflict with applicable air quality plans in nonattainment areas if the projects do not fully implement the control strategies of the applicable air quality management plan. Mitigation required for each individual project similar to Mitigation Measures AQ-1a, AQ-1b, AQ-1c, and AQ-1d for Impact AQ-1; Mitigation Measures AQ-2a and AQ-2b for Impact AQ-2; and Mitigation Measure

AQ-3a for Impact AQ-3 would reduce the effects and there would be no cumulative impact on implementation of applicable air quality plans.

***Impact AQ-5: Operations would create objectionable odors affecting a substantial number of people.***

Geothermal technology permitted under the DRECP may result in objectionable odors. Geothermal technology is planned within DFAs in either the Owens River Valley or the Imperial Borrego Valley ecoregion subarea. Because a substantial number of people live in these areas, the geothermal development could create an air quality impact if people reside less than one mile from the odor sources. The local permitting authorities would consider the effects of objectionable odors. Although routine operations of geothermal facilities would need to include applicable odor controls, an air quality impact would occur if operations, accidental releases, or upset conditions would cause noticeable odors.

The geothermal projects listed in Table IV.25-1 and the geothermal development projected in the Imperial County General Plan could result in objectionable odors, similar to those discussed for the DRECP geothermal projects. Many of the projects would be located within the same known geothermal area near the Salton Sea. However, there are few existing geothermal projects and existing laws that limit objectionable odors regulate these projects. Other cumulative projects located in Imperial County such as industrial agriculture anticipated in the General Plan or the biofuel and biomethane facility would also result in odors but are located further from the geothermal development area. The renewable projects permitted under the DRECP are not expected to result in a cumulative impact. Additionally, implementation of the mitigation measures such as AQ-3a would reduce this effect.

**CEQA Significance Determination**

**AQ-1: Plan components would generate short-term air emissions that violate any air quality standard or contribute to an existing or projected air quality violation.**

Renewable energy projects and transmission covered by the DRECP would increase construction dust and exhaust emissions from construction equipment and vehicles. These effects could combine with emissions from the cumulative projects listed in Tables IV.25-1 through IV.25-4 and with the development projected in county General Plans (see Section IV.25.2) to cumulatively violate or contribute to an existing violation of air quality standards. As discussed in Section IV.2.1.1.1, Impacts Within the Entire Plan Area in No Action Alternative, some of the locations where the cumulative development could occur are in nonattainment for ozone and PM<sub>10</sub> (for state and federal air quality standards) and PM<sub>2.5</sub> (for state air quality standards). However, because the projects permitted under the DRECP and the projects listed in Tables IV.25-1 through IV.25-4 would implement feasible control strategies for construction dust and construction equipment emissions (see mitigation

AQ-1a, AQ-1b, AQ-1c, and AQ-1d in Section IV.2.3.2.1.1) and would be short term in nature, the cumulative impact would be less than significant.

**AQ-2: Long-term operations air emissions would violate air quality standards or contribute to air quality violations.** Renewable energy projects and transmission permitted under the DRECP would increase vehicle and equipment activity and activities on unpaved surfaces, and the emissions from operations and maintenance activities could violate or contribute to an existing violation of air quality standards. Similar operational activities would be required for the projects listed in Tables IV.25-1 through IV.25-4. Substantial growth anticipated by the counties impacted by the DRECP would result in emissions from natural gas and electricity use, landscaping, and use of consumer products. The emissions from the DRECP in conjunction with the similar projects listed in the tables, and in particular the additional development associated with the population growth in the counties, would be spread throughout the Plan Area and would be expected to occur over a long period of time, resulting in a significant cumulative impact. Given the scale of the operational emissions caused by the DRECP renewable energy projects and the mitigation required for these projects (see mitigation AQ-1a, AQ-1b, AQ-1c, AQ-1d, AQ-2a, and AQ-2b in Section IV.2.3.2.1.1), the contribution of these projects would be less than cumulatively considerable.

**AQ-3: Operations would expose air quality sensitive receptors to adverse air pollutant concentrations.** Development of the renewable energy projects and transmission permitted under the DRECP would result in new sources of emissions from operations and maintenance activities at levels that may expose sensitive receptors to adverse air pollutant concentrations. This development would implement standard mitigation (see mitigation AQ-1a, AQ-1b, AQ-1c, AQ-1d, AQ-2a, AQ-2b, and AQ-3a in Section IV.2.3.2.1.1) to reduce the impact. The cumulative projects listed in Tables IV.25-1 through IV.25-4 would result in similar new sources of emission, including the projected population growth in the county. However, these emissions would be spread throughout the Plan Area and nearby regions and would not be expected to exceed regional thresholds, in particular as new development would incorporate best management practices (BMPs) and standard regulatory requirements. Because of this, the cumulative impact would be less than significant.

**AQ-4: Operations would conflict with or obstruct implementation of applicable air quality plans.** Development of the renewable energy projects and transmission permitted under the DRECP would result in emissions that could conflict with applicable air quality plans established for nonattainment areas if subsequent projects do not fully implement the control strategies of the applicable air quality management plan. While the cumulative projects listed in Tables IV.25-1 through IV.25-4 would result in similar conflicts with applicable air quality management plans, existing regulations and mitigation (see mitigation AQ-1a, AQ-1b, AQ-1c, AQ-1d, AQ-2a, AQ-2b, and AQ-3a in Section IV.2.3.2.1.1)

would be required for each project. Therefore, the cumulative impact on conflicts with applicable air quality plans would be less than significant.

**AQ-5: Operations would create objectionable odors affecting a substantial number of people.** Geothermal operations may result in objectionable odors experienced by people within one mile of geothermal vents or other geothermal system sources. Geothermal technology is planned within DFAs located in either the Owens River Valley or the Imperial Borrego Valley ecoregion subarea. Existing and proposed geothermal projects listed in Table IV.25-1 would be built in the Imperial Valley, but there are few existing and proposed geothermal projects listed in the table and they would be regulated by existing laws and mitigation such as AQ-3a, so they would not result in a significant cumulative impact.

### **IV.25.3.3 Meteorology and Climate Change**

Increasing atmospheric levels of greenhouse gases (GHGs; primarily carbon dioxide, CO<sub>2</sub>) are linked to global climate change (IPCC 2007; USGCRP 2009). The analysis presented in Chapter IV.3 for GHG effects is a cumulative assessment of GHG impacts, including the DRECP's incremental contribution to those impacts. Because climate change is a global effect, the cumulative geographic scope for this impact is the entire world.

***Impact MC-1: Construction or operation of plan components would generate greenhouse gas emissions.***

As discussed in Chapter IV.3, Meteorology and Climate Change, global GHG emissions are cumulatively significant. However, all of the DRECP alternatives would result in lower statewide GHG emissions compared to baseline levels by displacing fossil fuel electricity generation with renewable electricity.

***Impact MC-2: Construction or operation of plan components would conflict with an applicable plan, policy, or regulation intended to address climate change.***

Development of the Preferred Alternative or any of the other action alternatives in conjunction with the future foreseeable projects and projected growth and development would not result in a cumulative effect to conflicts with an applicable plan, policy, or regulation. Projects developed under any of the alternatives and projects presented in Tables IV.1-1, IV.1-2, and IV.1-3 would facilitate the GHG emissions reductions that California expects to achieve by generating electricity from renewable energy resources rather than fossil fuel technologies. This displacement of GHGs would be consistent with the Global Warming Solutions Act, AB 32, GHG reduction goals and the Climate Change Scoping Plan (see Volume III, Section III.3.1.2). In addition, the action alternatives would implement the DRECP, which facilitates renewable project approval while balancing conservation of California's desert natural resources in a manner consistent with Executive Order S 14 08.

Individual renewable energy projects would cause no other potential conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The projects listed in Table IV.1-4 and the projected growth would not conflict with an applicable plan, policy, or regulation intended to address climate change because they would be required to comply with California's existing regulations. For example, much of the projected growth includes residential development. Prior to the construction of residential subdivisions, such projects would need to comply with California regulations and laws including those that pertain to climate change.

### **CEQA Significance Determination**

**MC-1: Construction or operation of plan components would generate greenhouse gas emissions.** As discussed in Chapter IV.3, global GHG emissions are cumulatively significant. Each of the DRECP alternatives would result in lower statewide GHG emissions compared to baseline levels by displacing fossil fuel electricity generation with renewable electricity. For that reason, none of the DRECP alternatives would have a cumulatively considerable contribution to GHG emissions.

**MC-2: Construction or operation of plan components would conflict with an applicable plan, policy, or regulation intended to address climate change.** As discussed in Chapter IV.3, the GHG emissions avoided as a result of the DRECP would be consistent with applicable plans, policies, or regulation intended to address climate change for all action alternatives. The No Action Alternative would have a significant and unavoidable impact because it would fall short on providing the conservation envisioned by Executive Order S-14-08. However, because the individual projects listed in Tables IV.1-1 through IV.1-4 and the activities likely to occur as projected would cause no other potential conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, this would not result in a cumulative impact.

#### **IV.25.3.4 Geology and Soils**

The geographic area considered for cumulative effects related to soils and geologic hazards is within a 0.5-mile radius of the Development Focus Areas (DFAs) for the Preferred Alternative and for other alternatives for seismic events and erosion. This is because impacts resulting from seismic events and erosion are localized in nature and are unlikely to extend beyond the actual project boundaries unless an extreme event results in substantial downstream erosion. The geographic area considered for impacts to sand transport is the entire sand transport corridor in the Chuckwalla Valley.

***Impact SG-1: Plan components would expose people or structures to injury or damage as a result of seismic, volcanic, or landslide activity.***

As described in Chapter IV.4, over the lifetime of a renewable energy facility, earthquakes are likely within the Plan Area. The operation and maintenance of a facility would expose people and/or structures to seismic hazards, and a cumulative effect could occur if another project within a 0.5-mile radius would also expose people and/or structures to seismic hazards. While not all the projects listed in Tables IV.25-1 through IV.25-4 are located within the DFAs, a number of the projects are. For example, Blythe Solar Power Project, Desert Harvest Solar Farm, Desert Sunlight Solar Farm, FSE Blythe 1, Genesis NextEra, McCoy Solar Energy Project, Palen Solar Power Project, Palo Verde Mesa, EDF (McCoy), and the Devers-Palo Verde #2 transmission line are all within or near the DFAs in the Cadiz Valley and Chocolate Mountain ecoregion subarea and would all be susceptible to similar risks from seismic events. As noted in the Desert Center Area Plan, there would also be potential for future expansion of residential, commercial, recreational, and tourist-oriented uses in the Desert Center region. While none of the projects listed in this area would include occupied residential structures, damage to property could be considerable and could impact nearby residences or future residences in the Desert Center area resulting in a cumulative impact.

Mitigation measures would likely be required for the cumulative projects and would reduce the effects as follows: SG-1a (require geotechnical investigations), SG-1b (reduce the effects of ground shaking), and SG-1c (conduct landslide surveys and to protect against slope instability). Similar cumulative impacts could occur at other DFAs where they are adjacent to or within 0.5 miles of cumulative projects as listed in Tables IV.25-1 through IV.25-4. In particular, the cumulative impacts could occur in the DFAs in Cadiz Valley, Imperial Borrego Valley, Pinto Lucerne Valley, and West Mojave and Eastern Slopes.

Alternatives 1, 3, and 4 have fewer acres of DFAs in these regions but would still have a large amount of generation allocated to these DFAs. As a result, there would be a slightly greater likelihood that the renewable energy facilities would be located within 0.5 miles of the cumulative projects listed in Tables IV.25-1 through IV.25-4 and therefore could result in a cumulative impact.

***Impact SG-2: Soil or sand erosion would be triggered or accelerated due to plan components.***

**Erosion.** The Preferred Alternative together with other past, present, and reasonably foreseeable projects listed in Tables IV.25-1 through IV.25-4 have the potential to have adverse cumulative effects related to soil erosion. Any disturbance to surface soils could expose soils to the effects of wind and water. Activities including grading, compaction, drilling,

backfilling, and driving on unpaved roadways could disturb soils at any work site, regardless of the type of project. There could potentially be cumulatively additive effects related to wind and water erosion for projects that are in very close proximity and undergoing ground-disturbing activities at the same time.

While many of the projects listed in Tables IV.25-1 through IV.25-4 would likely have finished construction prior to the start of construction for a renewable energy facility permitted under the DRECP, some may not have. For example, the California High-Speed Rail goes through DFAs in the West Mojave and Eastern Slopes ecoregion subarea and is currently under construction from Fresno to Bakersfield. However, the High-Speed Rail segment from Bakersfield to the San Fernando Valley, also part of the initial operating section, would not be built until later this decade with the first operating section anticipated to begin service in 2022. Because of the long construction time frame for this project, it could overlap with construction of renewable energy facilities permitted under the DRECP and result in cumulative erosion impacts. In addition, as highlighted in the county General Plans, population growth and resulting residential and other infrastructure are projected out until 2040 in some areas that overlap with DFAs. If residential development is sited adjacent to renewable facilities such as in the Imperial County townsites, this would result in an adverse cumulative effect. Mitigation measures similar to those required for the DRECP alternatives in Chapter IV.4, SG-2a to prepare an erosion control plan, would reduce the cumulative effect.

**Sand Transport.** Under the No Action Alternative, the Preferred Alternative and Alternatives 2, 3, and 4, DFAs in Eastern Riverside County are located on or near an important sand transport corridor. Alternative 1 DFAs are also near an important sand transport corridor but would avoid many of the main corridor locations so would contribute less to this impact. The Palen Solar Power Project, BrightSource Sonoran West Project, Devers-Palo Verde No. 2 transmission line, and many generator tie-lines (gen-tie lines) from renewable projects in Eastern Riverside County would also be located in the sand transport corridor. The Palen Solar Power Project would directly impact 1,160 acres of the sand transport corridor (CEC 2013b). The area of the sand transport corridor that would be affected by the BrightSource Sonoran West Project is unknown, but the much of the project is within this corridor. Fencing required for the BrightSource Sonoran West Project could impede sand transport and affect valuable habitat within this corridor, resulting in a cumulative blocking of the corridor. Mitigation measures in Chapter IV.4, such as SG-2b (protecting sand transport corridors), would reduce the effects of each individual renewable project permitted under the DRECP to the extent practicable. The Palen and Devers-Palo Verde projects also included mitigation to reduce this impact and Sonoran West would likely require similar mitigation.

***Impact SG-3: Plan components would expose structures to damage from corrosive or expansive soils.***

Expansive and corrosive soils could damage renewable energy facilities in DFAs as discussed in Chapter IV.4. Many existing and proposed projects are in Eastern Riverside County, the Imperial Valley, West Mojave, and the Pinto Lucerne Valley that are located in or near DFAs. Similarly, population growth projected in county plans would likely require additional residential and other construction. Some communities, such as the Tehachapi Mountain communities, have projected growth of 50% to 60% and would likely overlap with DFAs. Past and future projects listed in Tables IV.25-1 through IV.25-4 located in close proximity to renewable energy structures in DFAs on the same soil types would be exposed to the same conditions and therefore the same impacts. Collapse of project structures and adjacent structures would combine to result in a cumulative impact where such structures are in close proximity to other structures or people, such as the residential and commercial developments. Residential and commercial development, and the existing and future renewable projects listed in Tables IV.1-1 through IV.1-3, or other projects listed in Table IV.1-4 would require mitigation measures such as SG-3a (in Chapter IV.4) to complete geotechnical studies and appropriate engineering to withstand the soil conditions and would reduce the cumulative effects.

***Impact SG-4: Plan components would destroy or disturb desert pavement.***

Renewable energy facilities permitted under the DRECP may cause damage to desert pavement. Excavation and grading for renewable energy facilities would be similar for the construction of most cumulative projects listed in Tables IV.25-1 through IV.25-4. Where the projects damage desert pavement in the same area as the DFAs, they would result in a cumulative impact on desert pavement. Specific locations of desert pavement have not been mapped for the DRECP and would require field surveys within the DFAs. As such, the exact locations of the potential cumulative impacts are unknown, although some existing projects are known to affect areas of desert pavement, for example as the Sunrise Powerlink Transmission Project. Mitigation measures, such as SG-4a (presented in Chapter IV.4 protecting and restoring desert pavement), would likely be required for the cumulative projects similar to the Sunrise Powerlink Project reducing the cumulative impact.

## **CEQA Significance Determination**

**SG-1: Plan components would expose people or structures to injury or damage as a result of seismic, volcanic, or landslide activity.** Active faults are widespread throughout the Plan Area, and it is likely that a major earthquake would occur where the plan components and the cumulative projects listed in Table IV.25-1 through IV.25-4 are located. However, the DRECP renewable projects would implement the existing California

Building Code regarding occupied structures and Mitigation Measures SG-1a through SG-1c. The cumulative impacts would also be required to implement existing regulations and similar types of mitigation. The impact would be less than cumulatively significant.

**SG-2: Soil or sand erosion would be triggered or accelerated due to plan components.**

Siting, construction, and decommissioning of renewable energy facilities under the DRECP could result in soil erosion including impacts to sand transport. These impacts would be similar in nature to impacts of construction of the cumulative list of projects. While most soil erosion would be limited to the areas adjacent to each project, impacts to the sand transport corridor would be broader. Due to the large acreage of impacts resulting from the Palen Solar Power Project, the Sonoran West project, and the DRECP project, impacts to the sand transport corridor would be cumulatively significant. Implementing SG-2a, SG-2b, and the biological resources conservation and management actions (CMAs) would limit development in the sand transport corridors and would reduce the contribution of the DRECP alternatives to less than cumulatively considerable.

**SG-3: Plan components would expose structures to damage from corrosive or expansive soils.**

Siting a renewable energy facility in an area with corrosive or expansive soils has the potential to result in structural damage or to degrade steel and concrete elements of the facility. Projects listed in Tables IV.25-1 through IV.25-4 would have similar potential for structural damage. However, the impacts due to corrosive or expansive soils would only result in a cumulative impact where the projects are sited within 0.5 miles of each other, which is unlikely to frequently occur given the size of the DFAs. Implementation of SG-3a and similar mitigation for the cumulative projects would ensure that the impact would be less than cumulatively significant.

**SG-4: Plan components would destroy or disturb desert pavement.** Disturbance of desert pavement by construction of renewable energy facilities permitted under the DRECP would result in increased erosion, sedimentation, and dust hazards during site characterization, construction, and decommissioning. Similar types of impacts to desert pavement would occur for the cumulative projects listed in Tables IV.25-1 through IV.25-4 such as the Sunlight Powerlink Project that impacted desert pavement. Mitigation Measure SG-4a would be required for the DRECP and similar types of mitigation would be required for the projects listed in Tables IV.25-1 and IV.25-4. As such, cumulative impacts would be less than significant.

### **IV.25.3.5 Flood, Hydrology, and Drainage Areas**

The cumulative geographic scope for flood, hydrology, and drainage areas is the entire DRECP and transmission corridors outside the Plan Area.

***Impact FH-1: Plan components could substantially alter existing drainage patterns and increase the risk of flooding on or off site.***

Renewable energy and transmission projects permitted under the DRECP could alter drainage patterns by changing the existing drainage pattern of the site or area through grading or channelization, resulting in concentrated stormwater flow patterns that increase the potential for erosion, sediment transport, and flooding effects compared to the natural diffused or distributary stormwater flow patterns. In addition, these effects could increase the rate or amount of surface runoff by ground disturbance and treatments that make the ground less pervious and diminish the physical and biological crusts, thereby increasing vulnerability to erosion. Renewable energy projects could also create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Development permitted under each DRECP alternative would be within the 100-year floodplain. Each alternative would include development that would occupy between 1% and 2% of the DFAs 100-year floodplain area. Potential activity within the 100-year floodplain indicates the potential adverse effects from development that can lead to substantially altering drainage patterns and increasing the risk of flooding. It is important to recognize that overall, 66% of the Plan Area has not been assessed for flood potential, suggesting that development within the 100-year floodplain could occupy more than anticipated.

Some of the projects listed in Tables IV.25-1 through IV.25-4 would be located within the 100-year floodplain and result in altering drainage patterns and increased risk of flooding. Existing renewable projects, such as the Genesis NextEra project have experienced impacts due to flooding during the limited time they have been under construction. The impacts of the projects listed in Tables IV.25-1 through IV.25-4 would combine with the renewable energy projects permitted under the DRECP to result in cumulative impact on drainage patterns and increased risk of on-site and off-site flooding. Mitigation Measure FH-1a would require development and implementation of an erosion and sedimentation plan including site drainage, erosion, and sedimentation, hydrology studies, and avoidance of impacts to surface water resources that would reduce the cumulative impacts.

***Impact FH-2: Plan components could alter hydrologic processes and water-dependent resources of surface water features.***

Land disturbance activities associated with renewable energy development permitted under the DRECP includes clearing, grading, excavation, road construction, vegetation removal, fencing, and drainage and flood control structures. These activities have the potential to disrupt drainage patterns, particularly of ephemeral stream channels. Considering the large area of most renewable energy developments, it is likely that ephemeral and

intermittent streams will flow through a proposed project area in its existing condition and such drainage paths and patterns will be altered. Land disturbance can also alter the course of a stream or river, or change its flow rates and frequencies, causing variations to associated morphological and ecological processes and affecting vegetation and animal species. While only a small portion of the linear and areal (area) surface water resources would be impacted by renewable energy development, the impacts to such features may be underestimated because the available data considers only the centerline lengths rather than the areal extent of these features.

The projects listed in Tables IV.25-1 through IV.25-4 would have similar land disturbing activities as described for the DRECP renewable energy projects and would result in the potential to disturb drainage paths and patterns. Because a number of the projects are located in the DFAs, they could combine with projects permitted under the DRECP to result in a larger impact on the same drainage paths and patterns. This is especially the case where projects are located in close proximity or back to back with each other as would be the case with the Desert Sunlight and Desert Harvest projects, or with the Blythe Solar Power Project and the McCoy Solar Project. In some ecoregion subareas, the projects listed in Tables IV.25-1 through IV.25-4 would only result in a cumulative impact with the No Action Alternative. For example, the Ivanpah Solar Electric Generating System (SEGS) and Stateline Solar Project would be located in an area available for renewable energy development under the No Action Alternative, but not for renewable energy development under the action alternatives.

Mitigation Measure FH-2a would require hydrologic studies, avoidance and minimizations of impacts to surface water resources, site characterization, siting, design, and operations and maintenance monitoring of water quantity and quality, and would reduce the cumulative impacts.

***Impact FH-3: Plan components could result in accidental releases of contaminants resulting in degradation of water quality.***

Renewable energy and transmission permitted under the DRECP would use hazardous materials and generate hazardous wastes, particularly oil-based and liquid chemical products. If hazardous materials and wastes are not properly handled and contained, they can spill and cause contamination to soils, surface water bodies, and groundwater.

The projects listed in Tables IV.25-1 through IV.25-4 would also require use of hazardous materials and hazardous wastes that could spill and cause contamination to soils, surface water bodies, and groundwater. Some cumulative projects listed in tables, such as the proposed Palen Solar Power Project, Genesis Solar Power Project, or Blythe Solar Power Project could also result in spills and contamination and are located within a DFA. However,

cumulative impacts are unlikely because the DRECP renewable energy projects would need to be located adjacent to the cumulative projects and the accidental releases would need to occur at the same time. Mitigation Measures such as control of site drainage, erosion and sedimentation, avoidance of impacts to surface water resources, monitoring of water quantity and quality, and waste discharge requirements would further reduce this likelihood of the effect.

### **CEQA Significance Determination**

**FH-1: Plan components could substantially alter existing drainage patterns and increase the risk of flooding on or off site.** Land disturbance activities associated with development of renewable energy technologies and transmission permitted under the DRECP have the potential to disrupt drainage patterns, particularly of ephemeral stream channels. These activities can also increase the risk of flooding by changing the magnitude and timing of runoff and its path to flow over land. Projects listed in Tables IV.25-1 through IV.25-4 would have similar land disturbance activities and would be located within or in close proximity to the DFAs, resulting in a cumulative impact on existing drainage patterns and an increase in the risk of flooding. However, implementation of Mitigation Measure FH-1a would be required for the projects developed under the DRECP and similar mitigation would likely be required for projects developed in the No Action Alternative and for the cumulative projects. With mitigation, the cumulative impact would be less than significant.

**FH-2: Plan components could alter hydrologic processes and water-dependent resources of surface water features.** Land disturbance activities have the potential to alter the structure (streambed and channel banks), composition (vegetation, rocks, and soil) and function (morphological and ecological processes, and hydrologic regimes that support plant and animal species) of surface water resources. Projects listed in Tables IV.25-1 through IV.25-4 would have similar land disturbance activities and would be located within or in close proximity to the DFAs, resulting in a cumulative impact on hydrologic processes and water dependent resources, in particular where multiple projects are in close proximity. Implementation of Mitigation Measure FH-2a would be required for the projects permitted under the DRECP and similar mitigation would likely be required for projects developed in the No Action Alternative and the cumulative projects. With mitigation, the cumulative impact would be less than significant.

**FH-3: Plan components could result in accidental releases of contaminants resulting in degradation of water quality.** During all phases of plan activities, hazardous materials used and hazardous wastes generated, particularly oil-based and liquid chemical products, if not properly handled and contained can spill and cause contamination to soils, surface water bodies, and groundwater. Projects listed in Tables IV.25-1 through IV.25-4 would use

similar hazardous materials and would be located within or in close proximity to the DFAs. Cumulative impacts would be less than significant because it is unlikely that the projects permitted under the DRECP would be located adjacent to the cumulative projects and the accidental releases would occur at the same time.

#### **IV.25.3.6 Groundwater, Water Supply, and Water Quality**

The geographic scope for groundwater, water supply, and water quality would be each individual groundwater basin within the DRECP. Projects within the surface recharge area of a groundwater basin or pumping water from the same groundwater basin could combine to result in cumulative effects.

##### ***Impact GW-1: Construction of Plan components could alter groundwater recharge.***

Renewable energy facilities permitted under the DRECP could influence the quantity and timing of groundwater recharge because construction would include grading the land surface, removing vegetation, altering the conveyance and control of runoff and floods, or covering the land with impervious surfaces that alter the relationships between rainfall, runoff, infiltration and transpiration (see Chapter IV.6, Section IV.6.3.1.1.1). Solar energy would result in the largest amount of grading so it would have the largest impact on groundwater recharge among the renewable technologies permitted under the DRECP. The projects listed in Tables IV.25-1 through IV.25-4 would similarly grade the land surface. Population growth and anticipated development summarized in Section IV.25.2.2 would similarly result in grading and a much larger amount of impervious surfaces due to residential and commercial development and greater asphalted areas. This would result in a cumulative impact on groundwater recharge. Mitigation measures similar to GW-1a (see Section IV.6.3.2.1.1) would require installing pervious groundwater cover to improve percolation and direct drainage. Residential development would also be required to reduce runoff and direct drainage to comply with laws and regulations.

##### ***Impact GW-2: Groundwater pumping and consumption lowers groundwater levels, depletes water supplies, and affects groundwater discharge.***

As described in Section IV.6.3.1.1.1, if local groundwater is the source of water to renewable energy facilities permitted by the DRECP, its extraction by wells will cause drawdown of groundwater levels. This drawdown increases with time and decreases with distance from the wells. The greatest potential water use varies by alternative and by technology. Geothermal technology has the greatest water use and require substantially more water than solar technologies that can use dry cooling technologies. For the Preferred Alternative, the greatest water use occurs within the Imperial Borrego Valley, with the second largest potential water use in Cadiz Valley and Chocolate Mountains, Owens River Valley, and West

Mojave and Eastern Slopes ecoregion subareas. For Alternative 1, the greatest potential water use occurs within the Imperial Borrego Valley, followed by Cadiz Valley and Chocolate Mountains. For Alternatives 2, 3, and 4, the greatest potential water use occurs within the Imperial Borrego Valley, followed by the Owens River Valley and West Mojave and Eastern Slopes. The No Action Alternative potential groundwater use is spread among more ecoregion subareas than the other alternatives.

The cumulative projects listed in Table IV.25-1 through IV.25-4 would also likely use local groundwater as the source of water for construction and operations. These projects are concentrated primarily in the same three ecoregion subareas, Imperial Borrego Valley, West Mojave and Eastern Slopes, and Cadiz and Chocolate Mountains although many cumulative projects are also in the Pinto Lucerne Valley. Some projects, such as the Eagle Mountain Pumped Storage Facility could use large amounts of groundwater and would continue using large amounts of groundwater during the life of the projects. Other projects, such as the Canenergy Rockwood Project and the Sugarcane and Sweet Sorghum-to-Ethanol Electricity and Bio-Methane Facility would likely require large amounts of water for the agriculture production but would likely get the water from the Imperial Irrigation District, which closely regulates the amount of water provided to users in the Imperial Valley. Impacts will be constrained by the limited availability of water rights and via oversight by state and local water authorities, similar to the Water Supply Assessments required for projects permitted under the DRECP. However, pressure on water supplies will continue to grow from multiple demands. In addition, several of the habitat management actions carried out by land managers are dependent on groundwater such as the maintenance of Outstanding and Remarkable Values within eligible and designated Wild and Scenic Rivers.

Future residential development summarized in Section IV.25.2.2 would also use a large amount of groundwater continuously. The use of groundwater for the renewable energy facilities permitted under the DRECP would combine with the use of groundwater for the cumulative projects and the projected development to result in a cumulative lowering of groundwater levels affecting basin water supplies and groundwater discharge. Mitigation similar to Mitigation Measure GW-2a would reduce the impact by quantifying and monitoring groundwater level changes and taking corrective actions. For projects such as the Eagle Mountain Pumped Storage Facility, mitigation would require monitoring of groundwater levels and monitoring nearby wells. Such mitigation would reduce effects to the extent practicable but because the groundwater basin is in overdraft and because of the large cumulative water use within the groundwater basin, the impacts remained cumulatively adverse (SWRCB 2013).

***Impact GW-3: Groundwater consumption could cause land subsidence and permanently decrease storage capacity.***

The renewable energy facilities permitted under the DRECP would use groundwater during construction and operations resulting in potential groundwater level decline and causing compressions as described in Section IV.6.1.1.1. Geothermal wells extract fluids from geologic strata typically thousands of feet deeper than the overlying aquifers but this can also lower the fluid pressure causing compression. The compression reduces the volume of the sediment beds and lowers land surface elevations, which can damage existing structures, roads, and pipelines; reverse flow in sanitary sewer systems and water delivery canals; and alter the magnitude and extent of flooding along creeks and lakes. This compression of the clay beds also represents a permanent reduction in storage capacity.

Many of the projects listed in Tables IV.25-1 through IV.25-4 would similarly contribute to use of groundwater and result in compression resulting in a cumulative impact. Population growth anticipated within the DRECP area and along the transmission corridors would also contribute to groundwater use and subsequent subsidence. This is particularly true in areas (i.e., Imperial Borrego Valley) that are already subject to subsidence and where the majority of the wells are domestic wells using an estimated few thousand acre-feet per year (SWRCB 2006). To reduce this cumulative impact, Mitigation Measures GW-3a and GW-3b would require a subsidence monitoring and reporting plan and actions to take if subsidence were to occur for the projects permitted under the DRECP. Similar mitigation measures would likely also be required for the list of projects identified in Tables IV.25-1 through IV.25-4.

***Impact GW-4: Groundwater consumption could cause existing poor-quality groundwater to migrate.***

As noted in Section IV.6.1.1.1, the projects permitted under the DRECP could cause water-level declines that cause highly saline areas of groundwater basins to migrate into surrounding parts of the basin and render groundwater unusable in the affected areas. The cumulative projects listed in Tables IV.25-1 through IV.25-4 could also cause water-level declines in the same groundwater basins and contribute to the migration of the saline areas of groundwater basins, resulting in a cumulative impact. To reduce the impacts from the projects, Mitigation measures such as GW-4a, required for the projects permitted under the DRECP, would require an action plan if water quality thresholds are reached including restrictions on water use and compensation to adjacent landowners.

***Impact GW-5: Injection of water for geothermal steam generation could contaminate potable water supplies.***

Saline water injected for steam generation during geothermal project operations creates a risk should the injection well casing corrode, potentially leading to a leak that injects brine into a relatively shallow water supply aquifer. The cumulative list of projects includes few geothermal projects other than in Imperial Valley. The Imperial County General Plan and specific plans also include geothermal development as a projected future activity in this region. Each geothermal project is closely reviewed and monitored by the California Division of Oil and Gas and Geothermal Resources and required to implement best management practices. Therefore, there would be no cumulative impact.

***Impact GW-6: Chemical spills or brine disposal could contaminate groundwater.***

Renewable energy facilities permitted under the DRECP could produce or use fluids that would contaminate groundwater if they leaked into an aquifer. Such fluids include vehicle fuels, solvents for equipment maintenance, brines produced by demineralization, and brines produced from geothermal extraction wells. Improper handling or containment of hazardous materials associated with transmission facility electrical equipment located inside and outside the Plan Area could disperse contaminants to soil or groundwater. Cumulative projects listed in Tables IV.25-1 through IV.25-4 could also produce fluids that would contaminate ground if leaked. Projects listed in Table IV.25-4, while not renewable energy, these projects would likely require vehicle fuels and solvents during construction or maintenance. The large amount of acreage disturbed by the renewable energy facilities and the cumulative projects could cause groundwater contamination from chemical spills or brine disposal. For a cumulative effect, the spills would need to occur at the same time and in proximity to each other. This is unlikely given the best management practices required for any project that uses chemicals. Therefore, the risk of cumulative spills occurring at the same time and in close proximity is minimal.

**CEQA Significance Determination**

**GW-1: Construction of plan components could alter groundwater recharge.** As noted earlier, the renewable energy projects permitted under the DRECP could alter groundwater recharge. Projects listed in Tables IV.25-1 through IV.25-4 and especially the future residential and commercial development anticipated in county plans would increase impervious areas, altering groundwater recharge. The projects permitted under the DRECP would implement Mitigation Measure GW-1a, which would require installation of pervious groundwater cover and direct drainage. Projects constructed under the No Action Alternative and the cumulative projects would have similar requirements and the impact would be less than cumulatively significant.

**GW-2: Groundwater consumption lowers groundwater levels, depletes water supplies, and affects groundwater discharge.** As noted earlier, renewable energy facilities permitted under the DRECP and the projects listed in Tables IV.25-1 through IV.25-4 would use groundwater and could lower groundwater levels affecting basin water supplies and groundwater discharge. Due to the large number and type of cumulative projects, the anticipated growth in the counties within the Plan Area and the overdraft nature of some of the groundwater basins within the DRECP, this impact would be cumulatively significant.

For the No Project Alternative, typical mitigation measures would likely reduce this impact. If technologies to minimize use of water were incorporated into the projects, such as the use of dry cooling technology, this impact would be reduced. However, unless participating agencies require such measures during their review of specific projects, groundwater pumping and consumption in this desert environment will have an considerable contribution to the cumulative impact.

For the action alternatives, if a project permitted under the DRECP were to lower groundwater supplies, the CMAs for all action alternatives would require measures that could include changes to pumping rates, volume, or timing of withdrawals; coordinating and scheduling groundwater pumping activities in conjunction with other users in the basin; acquisition of project water from outside the basin; and/or replenishing the groundwater resource over a reasonably short time frame. With implementation of the CMA and Mitigation Measure GW-2a, the contribution the DRECP to the cumulative impact would be less than cumulatively considerable. However, due to the substantial amount of geothermal water use, the cumulative contribution of this technology, would remain considerable.

**GW-3: Groundwater consumption could cause land subsidence and permanently decrease storage capacity.** The renewable energy facilities permitted under the DRECP and the projects listed in Tables IV.25-1 through IV.25-4 would use groundwater and result in compressions, land subsidence, and a decreased storage capacity as described earlier. Implementation of Mitigation Measures GW-3a and GW-3b would require monitoring and reporting and actions to reduce subsidence caused by the DRECP renewable energy projects. Similar mitigation would be required for the projects listed in the cumulative tables. Therefore, the impact would be less than cumulatively significant.

**GW-4: Groundwater consumption could cause existing poor-quality groundwater to migrate.** The projects permitted under the DRECP in combination with the projects listed in Tables IV.25-1 through IV.25-4 could cause water-level declines that cause highly saline areas of groundwater basins to migrate into surrounding parts of the basin and render groundwater unusable in the affected areas. Mitigation Measure GW-4a would require that projects permitted under the DRECP have an action plan to restrict water use and compensate adjacent landowners. Similar mitigation would be required for the No Action Alterna-

tive and for projects listed in the cumulative tables. Therefore, the impact would be less than cumulatively significant.

**GW-5: Injection of water for geothermal steam generation could contaminate potable water supplies.** As described earlier, cumulative geothermal projects are only anticipated in the Imperial Valley area. These projects would be subject to review and monitoring by the California Division of Oil and Gas and Geothermal Resources and required to implement best management practices for water injection. There would be no cumulative impact.

**GW-6: Chemical spills or brine disposal could contaminate groundwater.** While the projects permitted under the DRECP and many of the cumulative projects listed in Tables IV.25-1 through IV.25-4 would require use of chemicals or brine, a cumulative impact would only occur if two or more projects resulted in a spill at the same time and in close proximity to one another. This is unlikely given the best management practices required for any project that uses chemicals. Therefore, there is no cumulative impact.

#### **IV.25.3.7 Biological Resources**

Under all alternatives, activities proposed within the Plan Area would be required to conform to federal, state, and local laws and regulations that protect biological resources, such as, but not limited to: Endangered Species Act, Clean Water Act, Clean Air Act, Migratory Bird Treaty Act, Eagle Act, California Endangered Species Act, California Fish and Game Code (1600-1616), Porter-Cologne Water Quality Act, Native Plant Protection Act, and local authorities and administering agencies.

For most species addressed within the EIR/EIS, the geographic range of the species would be the Plan Area. For a few species, such as the condor, the cumulative geographic range would be larger due to their larger habitat. In particular, the California condor habitat includes ranges surrounding southern San Joaquin Valley, the Transverse Ranges, Tehachapi Mountains, and southern Sierra Nevada. The cumulative geographic range for the DRECP is the Southern California population because condors from other populations are not expected to use the habitat within the DRECP. Section IV.25.2.2.2, Cumulative Projections, describes the type of development occurring in the Southern California population. For golden eagles, the cumulative scale of analysis is a 140-mile radius around the DRECP (see Appendix H, Process to Calculate Available Take).

#### **Cumulative Impacts of the No Action Alternative**

The construction of cumulative projects listed in Tables IV.25-1 through IV.25-4 as well as the development projected in county General Plans, summarized in Section IV.25.2, would result in renewable energy, transmission, and other development under the No Action Alternative. These projects under the No Action Alternative

would result in the continuation of existing project-by-project analysis and mitigation measures, including BMPs and use restrictions through compliance with federal, state, and local regulations. The No Action Alternative would result in significant and unmitigable impacts for the following:

- Impact BR-1: Siting, construction, decommissioning, and operational activities would result in significant and unmitigable loss of native vegetation.
- Impact BR-4: Siting, construction, decommissioning, and operational activities would result in significant and unmitigable loss of listed and sensitive plants; disturbance, injury, and mortality of listed and sensitive wildlife; and habitat for listed and sensitive plants and wildlife.
- Impact BR-6: Siting, construction, decommissioning, and operational activities would result in significant and unmitigable impacts to habitat linkages and wildlife movement corridors, the movement of fish, and native wildlife nursery sites.
- Impact BR-7: Siting, construction, decommissioning, and operational activities would result in significant and unmitigable impacts to habitat fragmentation and isolation of populations of listed and sensitive plant and wildlife species
- Impact BR-9: Operational activities would result in significant and unmitigable impacts to avian and bat injury and mortality from collisions, thermal flux or electrocution at generation and transmission facilities.

Under the No Action Alternative, existing laws and regulations would not require compensation for all loss of natural communities in the Plan Area. Typical mitigation measures would not be expected to offset the magnitude and extent of all the impacts to natural communities, and listed and sensitive plants and wildlife species, and bird and bat species. Project-by-project mitigation would not likely achieve large blocks of contiguous habitat in a connected reserve system across the Plan Area and would lack the inter-agency, coordinated management and monitoring of habitat lands for these species.

The lack of a comprehensive and integrated reserve design and Plan-wide implementation of supplemental mitigation in the form of bird and bat conservation plans would lead to cumulative impacts to natural communities, wildlife and plant species, and sensitive biological resources. The implementation of mitigation measures and BMPs as well as use restrictions, compensation, and compliance with federal, state, and local regulations for the protection of natural communities would reduce impacts. However, a lack of enough available private land with habitat, and fragmentation of mitigation land through piecemeal efforts would also reduce the effectiveness of such approaches and contribute to cumulative effects on natural communities, wildlife and plant species, and sensitive biological resources.

## Cumulative Impacts of the Action Alternatives

### ***Impact BR-1: Siting, construction, decommissioning, and operational activities would result in loss of native vegetation.***

Proposed Covered Activities under the DRECP action alternatives would potentially result in adverse impacts to less than 1% of natural communities overall, as described in Chapter IV.7, Biological Resources. The majority of impacts would occur within Desert Scrub natural communities within the West Mojave and Eastern Slopes and Cadiz Valley and Chocolate Mountains ecoregion subareas (59% of impacts, approximately 50,000 acres), but impacts to desert scrubs would be widely distributed. The only subareas without impacts to this general community would be the Panamint Death Valley and Piute Valley and Sacramento Mountains subareas. The desert scrub natural community provides habitat for a large number of the DRECP Covered Species (as detailed in Chapter IV.7 Section IV.7.3.2.1). Impacts to this general community may have an adverse effect on these species by removing or degrading suitable habitat.

The adverse effects of the loss of native vegetation would be avoided and minimized through the implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities. These CMAs would contribute to the overall DRECP conservation strategy, which includes conservation within Reserve Design Lands and a coordinated Monitoring and Adaptive Management Program (MAMP). Overall, the reserve design in the Preferred Alternative would include high percentages (>70%) of the total reserve design envelope in all of the ecoregion subareas (see Table IV.7-55). The other alternatives would also have similarly high percentages of the total reserve design envelope included in the reserve design. Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce the adverse effects from the loss of native vegetation resulting from the DRECP to a less than significant impact for the action alternatives. Overall, the proposed action alternatives contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

Within these ecoregion subareas, approximately 84,000 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 22,000 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include transmission lines, a high speed rail line, a new 63-mile freeway corridor, and the California State Parks 28,275-acre resource protection acquisition area (see Table IV.25-4).

The cumulative projects listed in Tables IV.25-1 through IV.25-4 would create land disturbance and would combine to result in cumulative impacts to biological resources. These projects, without the DRECP, would not include implementation of the reserve

design or biological resources CMAs. The majority of reasonably foreseeable renewable energy projects and large projects located within the Cadiz Valley and Chocolate Mountains and West Mojave and Eastern Slopes ecoregion subareas would require mitigation, minimization, and avoidance measures to reduce impacts to natural communities. These measures, along with resource protection area acquisitions, would reduce the cumulative effect to natural communities.

***Impact BR-2: Siting, construction, decommissioning, and operational activities would result in adverse effects to jurisdictional waters and wetlands.***

Proposed Covered Activities under the DRECP action alternatives would potentially result in adverse impacts to approximately 1% of wetland acres within the Plan Area and 2% of playa acres. The largest contributor to wetlands in the Plan Area is the open water of the Salton Sea, located within the Imperial Borrego Valley ecoregion subarea. Action alternatives may also potentially impact seeps and springs. All major rivers within the Plan Area would be avoided and no direct impacts would occur, however indirect effects could occur through altered ground water hydrology.

The action alternatives would result in minor adverse impacts to jurisdictional waters and wetlands within the Plan Area. Any adverse effects to jurisdictional waters and wetlands would be avoided and minimized through the implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities. These CMAs would contribute to the overall DRECP conservation strategy, which includes conservation within Reserve Design Lands and a coordinated Monitoring and Adaptive Management Program. The majority (greater than 80%) of jurisdictional waters and wetlands would be located within existing conservation lands, National Landscape Conservation System (NLCS), ACECs, and wildlife allocations (Reserve Design Lands). Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce any adverse effects to jurisdictional waters and wetlands. Overall, the proposed action alternatives contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-4 as well as the development highlighted in applicable county General Plans and other ongoing activities, would result in cumulative effects to jurisdictional waters and wetlands. The Salton Sea area, located within the Imperial Borrego Valley ecoregion subarea, is the largest wetland within the Plan Area that may be impacted. Within this ecoregion subarea, approximately 30,400 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 13,700 acres of renewable energy projects are under review (see Table IV.25-2). However, many of these projects are at a substantial distance from the Salton Sea and have minimal, if any, impacts to jurisdictional waters and

wetlands. Other large projects within this ecoregion subarea that occur near the Salton Sea are the Salton Sea Landfill Expansion Project (284 acres), Salton Sea Species Conservation Habitat Project (3,770 acres), and the Sonny Bono Salton Sea Comprehensive Conservation Plan (see Table IV.25-4).

The majority of reasonably foreseeable renewable energy projects and large projects located within the Imperial Borrego Valley ecoregion subarea would require mitigation, minimization, and avoidance measures to reduce impacts to jurisdictional waters and wetlands or are themselves habitat protection plans. These measures, along with the projects and plans for conservation of the Salton Sea as well as all jurisdictional waters and wetlands within the Plan Area, would reduce cumulative impacts.

***Impact BR-3: Siting, construction, decommissioning, and operational activities would result in degradation of vegetation.***

Proposed siting, construction, decommissioning, and operational Covered Activities under the DRECP action alternatives would result in the degradation of vegetation through the creation of dust, use of dust suppressants, exposure to fire, implementation of fire management techniques, and the introduction of invasive plants. The action alternatives would allow the siting of renewable energy development within no more than 10% of the available lands in Plan Area (DFAs). Of which, siting and construction of renewable energy development would affect less than 1% of the available lands in the Plan Area. These impacts would primarily occur in the Imperial Borrego Valley, West Mojave and Eastern Slopes, Cadiz Valley and Chocolate Mountains, and the Pinto Lucerne Valley and Eastern Slopes ecoregion subareas.

Any adverse effects from the creation of dust, use of dust suppressants, exposure to fire, implementation of fire management techniques, and the introduction of invasive plants would be avoided and minimized through the implementation of avoidance and minimization CMAs. These CMAs would contribute to the overall DRECP conservation strategy, which includes conservation within Reserve Design Lands and a coordinated Monitoring and Adaptive Management Program. The majority (greater than 80%) of vegetation communities would be located within existing conservation lands, NLCS, ACECs, and wildlife allocations (Reserve Design Lands). Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce any adverse effects from the creation of dust, use of dust suppressants, exposure to fire, implementation of fire management techniques, and the introduction of invasive plants to a less than significant impact. Overall, the proposed action alternatives are not expected to contribute to cumulative effects with implementation of the reserve design and CMAs.

The reasonably foreseeable actions described in Tables IV.25-1 through IV.25-4, as well as applicable county General Plans and other ongoing activities, would result in cumulative effects from the creation of dust, use of dust suppressants, exposure to fire, implementation of fire management techniques, and the introduction of invasive plants. Within these ecoregion subareas, approximately 115,000 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 31,800 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include transmission lines, recreation area plans, mining projects, a high speed rail line, a 63-mile freeway corridor, biofuel projects (45,500 acres), the Eagle Mountain Storage Facility (2,220 acres), and habitat conservation projects (California State Parks 28,275-acre resource protection acquisition area, Salton Sea Species Conservation Habitat Project on 3,770 acres, and the Sonny Bono Salton Sea Comprehensive Plan) (see Table IV.25-4). The majority of reasonably foreseeable renewable energy projects and large projects located within these ecoregion subareas would require mitigation, minimization, and avoidance measures to reduce impacts to vegetation. These measures, along with the resource conservation and protection plans, would reduce cumulative effects to vegetation.

***Impact BR-4: Siting, construction, decommissioning, and operational activities would result in loss of listed and sensitive plants; disturbance, injury, and mortality of listed and sensitive wildlife; and habitat for listed and sensitive plants and wildlife.***

Proposed Covered Activities under the DRECP action alternatives would potentially result in adverse impacts to Covered and Non-Covered Species (direct and indirect impacts to individuals and habitat), as described in Chapter IV.7, Biological Resources. For the majority of Covered Species (75%), less than 1% of modeled habitat would occur within DFAs, as shown in Table IV.25-5. Of the remaining 25% of Covered Species, no more than 8% of modeled habitat (mostly less than 5%) would occur within DFAs. The majority of impacts to Covered and Non-covered Species would occur within the Imperial Borrego Valley, West Mojave and Eastern Slopes, and Cadiz Valley and Chocolate Mountains ecoregion subareas.

The majority of Covered Species habitat is located within Reserve Design Lands (see Table IV.25-5). A substantial portion of Natural Communities containing habitat associated with Non-Covered Species would also be located within Reserve Design Lands. CMAs to avoid and minimize adverse impacts include, but are not limited to, the following (these may not apply to all species specifically) (see Table IV.25-5):

- Siting of DFAs to avoid the majority of habitat.
- Avoidance and setbacks from riparian, wetland, and dune habitat.

- Compensation to offset habitat loss.
- Habitat assessments and/or pre-construction surveys.
- Biological monitoring to ensure individuals are not directly affected by operations.
- Projects will be sited and designed to avoid impacts to occupied habitat and suitable habitat to the maximum extent practicable.
- A bird and bat use and mortality monitoring program will be implemented during operations using current protocols and best procedures available at time of monitoring
- Covered Activities that are likely to impact bird and bat Covered Species during operation will develop and implement a project-specific Bird and Bat Operational Strategy (BBOS) that meets the approval of the appropriate DRECP Coordination Group.

These CMAs would contribute to the overall DRECP conservation strategy, which includes conservation within Reserve Design Lands and a coordinated Monitoring and Adaptive Management Program. Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce the adverse effects to Covered and Non-Covered Species to a less than significant impact for the Preferred Alternative and Alternatives 1, 3, and 4. These alternatives contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

Under Alternative 2, impacts to desert tortoise would be significant and unmitigable. CMAs would not prohibit the development of Covered Activities in the TCAs. Additionally, the CMAs would require that impacts to desert tortoise linkage only limit impact to the minimum functionality within each linkage. The adverse impacts to desert tortoise under Alternative 2 are primarily a result of the DFA locations. Renewable energy development in DFAs would be covered in numerous locations considered important for desert tortoise conservation.

In addition to the acreage of lost desert tortoise habitat, impacts in linkages have the potential to reduce or eliminate the linkage function, which cannot be replaced or compensated. The lost linkage function in these important tortoise locations has the potential to isolate desert tortoise populations, which over time would lead to reduced individual fitness related to inbreeding, reduced genetic diversity, reduced resilience of subpopulations to threats, increased risk of extirpation within subpopulations, and a substantially reduced ability of the desert tortoise to recover in the Plan Area. Alternative 2 would contribute to cumulative effects to desert tortoise in combination with other reasonably foreseeable actions.

Under Alternative 2, impacts to Mohave ground squirrel would be significant and unmitigable. The adverse impacts to Mohave ground squirrel would primarily be a result of where DFAs are located. Renewable energy development in DFAs would be covered in numerous locations considered important for Mohave ground squirrel conservation. In addition to the loss of Mohave ground squirrel habitat, impacts in linkages have the potential to reduce or eliminate the linkage function, which cannot be replaced or compensated. The lost linkage function in these locations has the potential to isolate key population centers for Mohave ground squirrel, which over time would lead to reduced individual fitness related to inbreeding, reduced genetic diversity, reduced resilience of subpopulations to threats, increased risk of extirpation within subpopulations, and a substantially reduced ability of Mohave ground squirrel to recover in the Plan Area. Alternative 2 would contribute to cumulative effects to Mohave ground squirrel in combination with other reasonably foreseeable actions.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-4, as well as applicable county General Plans and other ongoing activities, would result in cumulative effects to Covered Species. Within the Imperial Borrego Valley, West Mojave and Eastern Slopes, and Cadiz Valley and Chocolate Mountains ecoregion subareas, there are approximately 114,700 acres of renewable energy projects that are operational, under construction, and approved (see Table IV.25-1). An additional 29,500 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include transmission lines, recreation area plans, mining projects, a high speed rail line, a 63-mile freeway corridor, biofuel projects (45,500 acres), the Eagle Mountain Storage Facility (2,220 acres), and habitat conservation projects (the California Department of Parks and Recreation 28,275-acre resource protection acquisition area; Salton Sea Species Conservation Habitat Project on 3,770 acres; and the Sonny Bono Salton Sea Comprehensive Plan) (see Table IV.25-4). It is anticipated that all reasonably foreseeable actions would be subject to further review and evaluation in compliance with federal, state, and local regulations, and that additional mitigation measures would be imposed on these projects as a result of the approval process. These measures, along with the resource conservation and protection plans, would reduce cumulative impacts to Covered and Non-Covered Species.

As noted above, Table IV.25-5 describes the contribution of the action alternatives to the cumulative effects on Covered Species.

**Table IV.25-5**  
**Summary of the Contribution of the DRECP to Cumulative Impacts on**  
**Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
<i>Amphibian/Reptile</i>			
Agassiz's desert tortoise	Less than 1%	80%	<p>Some DFAs overlap sensitive desert tortoise resources. Transmission development would lead to the potential for increased risk of predation or striking by vehicles associated with access roads to support transmission lines, particularly in the Lucerne Valley area. The majority of modeled habitat (&gt;70%) and critical habitat (&gt;80%) for desert tortoise is located within existing conservation areas or on BLM LUPA Conservation Designations. The CMAs would require avoidance of TCAs, except for impacts associated with transmission or disturbed portions of TCAs. CMAs that would prohibit impacts that affect viability of linkages and the reserve design for all alternatives, except Alternative 2, would increase the conservation of important linkages between recovery units. Compensation CMAs would be required for allowable and unavoidable impacts to important tortoise areas. CMAs require habitat assessments and/or pre-construction surveys.</p> <p>The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs. Under Alternative 2, the amount of overlap of DFA with tortoise the linkage network would be a substantial contribution. In addition, CMAs under this alternative would not prohibit the development of Covered Activities in the TCAs. Alternative 2 would result in contributions to cumulative effects.</p>
Flat-tailed horned lizard	3%	58%	<p>Siting of DFAs avoids the majority of habitat. CMAs adopt requirements of the interagency Flat-tailed Horned Lizard Rangeland Management Strategy. CMAs require avoidance of and setbacks from dune habitat, which further avoids and minimizes impacts. Compensation CMAs offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. Covered Activities would include appropriate design features from the Flat-tailed Horned Lizard Rangeland Strategy and RMS Interagency Coordinating Committee to reduce</p>

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			mortality. The contribution of the action alternatives would be reduced with implementation of reserve design and CMAs.
Mojave fringe-toed lizard	1%	79%	Siting of DFAs avoids the majority of habitat. Habitat would be avoided to the maximum extent practicable along transmission line corridors. CMAs that require avoidance of and setbacks from dunes would also avoid impacts to primary habitat areas for Mojave fringe-toed lizard. Plan-wide and landscape-level avoidance and minimization CMAs would further avoid and minimize impacts. Compensation CMAs would offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. The contribution of the action alternatives would be reduced with implementation of reserve design and CMAs.
Tehachapi slender salamander	Less than 1%	79%	Siting of DFAs avoids the majority of habitat for this species. CMAs that require avoidance of and setbacks from riparian and wetland habitat would avoid impacts to primary habitat areas for the Tehachapi slender salamander. Plan-wide and landscape-level avoidance and minimization CMAs would further avoid and minimize impacts. Compensation CMAs would offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. The contribution of the action alternatives would be reduced with implementation of reserve design and CMAs.
<i>Bird</i>			
Bendire's thrasher	Less than 1%	82%	Siting of DFAs avoids the majority of habitat for this species. Operational impacts would be monitored and project-specific mitigation would be implemented as needed. CMAs require avoidance of and setbacks from active nests, riparian habitat and wetland habitat, which further avoids and minimizes impacts. Compensation CMAs offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. CMAs require biological monitoring to ensure individuals are not directly affected by operations. The action alternatives, except Alternative 2, would have a minimal contribution

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			to cumulative effects with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
Burrowing owl	2%	44%	Solar DFAs and transmission corridors, primarily in the West Mojave and Eastern Slopes subarea and on disturbed and agricultural lands, contain large areas of modeled habitat for burrowing owl. CMAs and species-specific survey and setback requirements would site solar facilities in areas that would limit burrowing owl exposure. For some alternatives that have reduced DFA footprints, the richest burrowing owl habitats would be avoided. CMA avoidance and setback provisions for managed wetlands and agricultural drains would also avoid or minimize impacts. CMAs require habitat assessments and/or pre-construction surveys. Operational impacts would be monitored and project-specific mitigation would be implemented if needed. Compensation CMAs would offset habitat loss. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
California black rail	2%	20%	Siting of DFAs avoids the majority of habitat, except in the Imperial Borrego Valley ecoregion. Operational impacts would be monitored and project-specific mitigation would be implemented if needed. CMAs that require avoidance of and setbacks (buffers) from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas for the California black rail. Plan-wide and landscape-level avoidance and minimization CMAs would further avoid and minimize impacts. Compensation CMAs would offset habitat loss. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs.

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
California condor	2%	38%	The California condor has not been documented to nest or breed in the Plan Area. The DRECP assumes no take of condors and therefore no direct impacts. Siting of DFAs avoids the majority of habitat but could affect up to 20,000 acres of potential foraging and temporary roosting habitat. Cumulative impacts would occur inside and outside the Plan Area and would include other renewable projects, transmission lines, and other large scale residential and commercial development. CMAs would require detection and curtailment practices to avoid injury and take of a condor, setbacks, and compensation. While cumulative impacts to the condor would be extensive outside of the DRECP, the contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Gila woodpecker	1%	43%	Siting of DFAs avoids the majority of habitat. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas for the Gila woodpecker. Plan-wide and landscape-level avoidance and minimization CMAs would further avoid and minimize impacts. Compensation CMAs would offset habitat loss. Operational impacts would be monitored and project-specific mitigation would be implemented if needed. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
Golden eagle–foraging	Less than 1%	84%	Siting of DFAs and transmission corridors within 4 miles of golden eagle territories could reduce foraging opportunities, depending on project siting. CMAs require avoidance of and setbacks from active nests, riparian habitat and wetland habitat, which further avoids and

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			<p>minimizes impacts. Compensation CMAs offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. CMAs require biological monitoring to ensure individuals are not directly affected by operations. Operational impacts would be monitored and project-specific mitigation would be implemented as needed. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.</p>
Golden eagle–nesting	Less than 1%	86%	<p>Approximately 40% of nests within the Plan Area may be impacted (within 1 to 4 miles of DFAs). CMAs require avoidance of golden eagle nests with setbacks within DFAs. CMAs require habitat assessments and/or pre-construction surveys. The number of golden eagles that would be allowed to be taken would be assessed annually. Based on the 2013 data, no more than 15 golden eagles would be allowed to be taken in 2014 by any activities within the Plan Area. This number considers the effects of ongoing impacts to the local-area population of eagles and other development activities that would occur throughout the DRECP planning area (except in reserve areas). Operational impacts would be monitored and project-specific mitigation would be implemented if needed. The contribution of the action alternatives would be reduced with implementation of reserve design and CMAs.</p>
Greater sandhill crane	8%	1%	<p>Impacts to Greater sandhill crane associated with DFAS in agricultural lands would occur, primarily in the Imperial Valley, Palo Verde Valley, and Antelope Valley. Species specific surveys, setbacks, and other CMAs have been developed to avoid and minimize impacts of Covered Activities. CMA avoidance and setback provisions for managed wetlands and agricultural drains would avoid or minimize impacts. CMAs require habitat assessments and/or pre-construction surveys. Compensation CMAs</p>

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			<p>would offset habitat loss. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs.</p> <p>Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.</p>
Least Bell's vireo	Less than 1%	75%	<p>Siting of DFAs avoids the majority of habitat, primarily within riparian and wetland habitats. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas for the least Bell's vireo. Plan-wide and landscape-level avoidance and minimization CMAs would further avoid and minimize impacts. Compensation CMAs would offset habitat loss. Operational impacts would be monitored and project-specific mitigation would be implemented if needed. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs.</p> <p>Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.</p>
Mountain plover	7%	4%	<p>DFAs, particularly within agricultural and disturbed areas, may impact mountain plover habitat. CMA avoidance and setback provisions for managed wetlands and agricultural drains would also avoid or minimize impacts.</p> <p>Compensation CMAs would offset habitat loss. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs.</p> <p>Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.</p>
Southwestern willow flycatcher	2%	36%	<p>Impacts to riparian communities would be avoided to the maximum extent practicable. Compensation CMAs would offset any impacts determined to be unavoidable. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to</p>

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			<p>primary habitat areas for the Southwestern willow flycatcher. CMAs also require avoidance of and setbacks from active nests, which further avoids and minimizes impacts, as would Plan-wide and landscape-level avoidance and minimization CMAs. CMAs require habitat assessments and/or pre-construction surveys. CMAs also require biological monitoring to ensure individuals are not directly affected by operations. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs.</p> <p>Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.</p>
Swainson's hawk	3%	19%	<p>Impacts to Swainson's hawk may occur within the West Mojave and Eastern Slopes, Imperial Borrego Valley, and associated agricultural lands, primarily in the Imperial Valley, Palo Verde Valley, and Antelope Valley. CMAs require avoidance of Swainson's hawk nests with setbacks within DFAs. CMA avoidance and setback provisions for managed wetlands and agricultural drains would avoid or minimize impacts. Compensation CMAs would offset habitat loss. Operational impacts would be monitored and project-specific mitigation would be implemented as needed. CMAs require habitat assessments and/or pre-construction surveys. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs.</p> <p>Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.</p>
Tricolored blackbird	3%	19%	<p>Impacts to riparian communities would be avoided to the maximum extent practicable. Compensation CMAs would offset any impacts determined to be unavoidable. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas for the Tricolored blackbird. CMAs</p>

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			also require avoidance of and setbacks from active nests, which further avoids and minimizes impacts, as would Plan-wide and landscape-level avoidance and minimization CMAs. Compensation CMAs would offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. CMAs require biological monitoring to ensure individuals are not directly affected by operations. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
Western yellow-billed cuckoo	Less than 1%	52%	Impacts to riparian communities would be avoided to the maximum extent practicable. Compensation CMAs would offset any impacts determined to be unavoidable. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas for the Western yellow-billed cuckoo. Plan-wide and landscape-level avoidance and minimization CMAs would further avoid and minimize impacts. Compensation CMAs would offset habitat loss. Operational impacts would be monitored and project-specific mitigation would be implemented as needed. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
Yuma clapper rail	Less than 1%	28%	Siting of DFAs avoids the majority of habitat, except in the Imperial Borrego Valley ecoregion. Operational impacts would be monitored and project-specific mitigation would be implemented as needed. CMAs that require avoidance of and setbacks (buffers) from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas for the Yuma clapper rail. Plan-wide and landscape-level avoidance and minimization CMAs would

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			further avoid and minimize impacts. Compensation CMAs would offset habitat loss. The contribution of the Preferred Alternative, Alternatives 1, 3, and 4 would be reduced with implementation of reserve design and CMAs. Alternative 2 would result in significant and unmitigable impacts to migratory bird movement corridors. This alternative would contribute to cumulative effects.
<i>Fish</i>			
Desert pupfish	3%	15%	Siting of DFAs avoids the majority of habitat for this species. CMA avoidance and setback provisions for managed wetlands and agricultural drains would avoid or minimize potential impacts. Compensation CMAs would offset any habitat loss.
Mohave tui chub	Less than 1%	82%	No adverse impacts anticipated. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas.
Owens pupfish	Less than 1%	57%	No adverse impacts anticipated. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas.
Owens tui chub	Less than 1%	57%	No adverse impacts anticipated. CMAs that require avoidance of and setbacks from riparian habitat and wetland habitat would also avoid impacts to primary habitat areas.
<i>Mammal</i>			
Bighorn sheep – intermountain habitat	Less than 1%	80%	Siting of DFAs largely avoids impacts to bighorn sheep intermountain habitat. Avoidance, minimization, and compensation CMAs would offset habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Bighorn sheep – mountain habitat	Less than 1%	84%	Siting of DFAs largely avoids impacts to bighorn sheep mountain habitat. Avoidance, minimization, and compensation CMAs would offset habitat loss. The contribution of the action alternatives to cumulative effects would be

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			reduced with implementation of reserve design and CMAs.
California leaf-nosed bat	1%	83%	CMAs require avoidance of and setbacks from riparian habitat and wetland habitat, and compensation CMAs to offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Desert kit fox	Less than 1%	75%	CMAs require habitat assessments and/or pre-construction surveys. CMAs require biological monitoring to ensure individuals are not directly affected by operations. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Mohave ground squirrel	1%	60%	CMAs would require avoidance of key population centers and would prohibit impacts that affect the viability of linkages. Compensation CMAs would be required for allowable and unavoidable impacts. CMAs require habitat assessments and/or pre-construction surveys. The contribution of Preferred Alternative, Alternatives 1, 3, and 4 to cumulative effects would be reduced with implementation of reserve design and CMAs.  Under Alternative 2, the amount of overlap of DFA with Mohave ground squirrel habitat and important linkages would be a significant impact. Alternative 2 would result in contributions to cumulative effects.
Pallid bat	1%	78%	CMAs require avoidance of and setbacks from riparian habitat and wetland habitat, and compensation CMAs to offset habitat loss. CMAs require habitat assessments and/or pre-construction surveys. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Townsend's big-eared bat	1%	76%	CMAs require avoidance of and setbacks from riparian habitat and wetland habitat, and compensation CMAs to offset habitat loss. CMAs require habitat assessments

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			and/or pre-construction surveys. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
<i>Plant</i>			
Alkali mariposa-lily	3%	17%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Bakersfield cactus	1%	44%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Barstow woolly sunflower	Less than 1%	69%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Desert cymopterus	Less than 1%	70%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Little San Bernardino Mountains linanthus	Less than 1%	59%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative

**Table IV.25-5  
 Summary of the Contribution of the DRECP to Cumulative Impacts on  
 Covered Species**

Covered Species	% of Habitat in DFAs <sup>1</sup>	% of Habitat in Reserve Design	Summary
			effects would be reduced with implementation of reserve design and CMAs.
Mojave monkeyflower	1%	79%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Mojave tarplant	Less than 1%	64%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Owens Valley checkerbloom	Less than 1%	50%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Parish's daisy	1%	79%	CMAs require surveys for plants on the proposed Covered Species List for all Covered Activities. CMAs also require avoidance of and setbacks from occupied habitat, and compensation CMAs for unavoidable habitat loss. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.
Triple-ribbed milk-vetch	0%	80%	No adverse impacts anticipated. Transmission corridors would avoid habitat for this species. The contribution of the action alternatives to cumulative effects would be reduced with implementation of reserve design and CMAs.

**Note:** Percentages are based on acres of DFAs and reserve design under the Preferred Alternative.

<sup>1</sup> Percentage of habitat represents total habitat within the DFA. As noted in Volume II, for all alternatives, the DFA footprint is much larger the area required for renewable development.

### ***California Condor***

The Preferred Alternative and action alternatives would likely result in loss of condor foraging habitat within DFAs. Habitat loss would be minimal overall (less than 2%). Designation of Reserve Design Lands would offset the adverse effects of habitat loss within DFAs by providing protections to condor food sources, such as native ungulate populations as well as cattle and sheep. Foreseeable future wind projects as well as the development highlighted in Section IV.25.2.2.2 both inside and outside the Plan Area could result in direct and indirect effects on suitable condor foraging habitat; however, these projects are not anticipated to substantially affect condor's ability to find food sources within the Plan Area. The ongoing availability of open spaces and foraging areas throughout the Plan Area, particularly within existing and proposed Reserve Design Lands, that are within the historic range of the condor in California would further reduce any cumulative effects. Although there would likely be cumulative loss of foraging habitat associated with the action alternatives when considered in combination with past, present, and other reasonably foreseeable actions, the amount of foraging habitat conserved would be greater and serve to reduce overall adverse effects.

### ***Impact BR-5: Siting, construction, decommissioning, and operational activities could result in loss of nesting birds.***

Proposed Covered Activities under the DRECP action alternatives would potentially result in adverse impacts to natural communities and the loss of vegetation that serve as nesting habitat for migratory birds. The Preferred Alternative and action alternatives would also result in human presence and noise that have the potential to cause nest abandonment and disturbance to nesting birds. Implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities would reduce adverse impacts. CMAs include season restrictions, survey requirements, and setbacks necessary to avoid and minimize the loss of nesting birds. These CMAs would contribute to the overall DRECP conservation strategy, which includes conservation within Reserve Design Lands and a coordinated Monitoring and Adaptive Management Program. Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce adverse effects to nesting and migratory birds. Overall, the proposed action alternatives' contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-4, as well as applicable county General Plans and other ongoing activities, would result in cumulative effects to nesting and migratory birds. While nesting and migratory birds occur throughout the Plan Area, the majority of DFAs are located in Desert Scrub within the Cadiz Valley and Chocolate Mountains and West Mojave and Eastern Slopes ecoregion subareas. Within

these ecoregion subareas, approximately 84,300 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 22,000 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include transmission lines, a high speed rail line, a new 63-mile freeway corridor, and the California State Parks 28,275-acre resource protection acquisition area (see Table IV.25-4). All of the past, present, and reasonably foreseeable projects listed earlier would contribute to cumulative impacts to nesting and migratory birds. It is anticipated that all reasonably foreseeable actions would be subject to further review and evaluation in compliance with federal, state, and local regulations, and that additional mitigation measures would be imposed on these projects as a result of the approval process. These measures, along with the resource conservation and protection plans, would reduce cumulative effects to nesting and migratory birds.

***Impact BR-6: Siting, construction, decommissioning, and operational activities would adversely affect habitat linkages and wildlife movement corridors, the movement of fish, and native wildlife nursery sites.***

Proposed Covered Activities under the DRECP action alternatives would potentially result in adverse impacts to habitat linkages and wildlife movement corridors, including migratory bird and fish corridors, primarily within six of the ecoregion subareas. These ecoregion subareas are: Cadiz Valley and Chocolate Mountains, Imperial Borrego Valley, Mojave and Silurian Valley, Owens River Valley, Pinto Lucerne Valley and Eastern Slopes, and West Mojave and Eastern Slopes.

Action alternatives could potentially fragment intact and interconnected landscapes resulting in isolated patches of habitat, isolated species populations, reduced gene flow, disruption of migratory patterns, and remaining habitat that may be more exposed to the edge effects of adjacent development. Proposed DRECP reserve design and integration of the planning process would reduce and minimize potential impacts. Covered Activities would be sited and designed to maintain the function of wildlife connectivity within linkages, see Section II.3.1.2.5.3, Landscape-Level Avoidance and Minimization CMAs: Linkages and Connectivity. To minimize habitat fragmentation and population isolation, DFAs were sited within areas with greater degradation to avoid intact habitats. Impacts to environmental gradients were also considered and minimized.

Under the Preferred Alternative and Alternatives 1 and 3, implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities on Covered Species (discussed earlier) would also reduce adverse impacts. CMAs include season restrictions, survey requirements, and setbacks necessary to avoid and minimize impacts. These CMAs would contribute to the overall DRECP conservation strategy, which includes conservation within Reserve Design Lands, a coordinated Monitoring and

Adaptive Management Program, and Bird and Bat Operational Strategies. Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce adverse effects to habitat linkages and wildlife movement corridors to a less than significant impact. Overall, the contribution of the Preferred Alternative and Alternatives 1 and 3 to cumulative effects would be reduced with implementation of the reserve design and CMAs.

Alternative 2 would result in significant and unmitigable impacts to habitat linkages and wildlife movement corridors. Impacts to habitat linkages and movement of migratory birds would be concentrated in the Cadiz Valley and Chocolate Mountains, Imperial Borrego Valley, Pinto Lucerne Valley and Eastern Slopes and West Mojave and Eastern Slopes sub-areas. However, the DFAs under Alternative 2 are located in important linkage areas such that development of Covered Activities in key locations would have an adverse impact on wildlife movement. Alternative 2 would result in impacts of habitat fragmentation and population isolation that cannot be entirely offset through DRECP conservation strategy measures. Adverse impacts could not be mitigated or otherwise avoided or minimized without modifying the CMAs or DFAs to limit or prohibit development in sensitive areas, which would modify the purpose and intent of the alternative. Alternative 2 would contribute to cumulative effects to habitat linkages and wildlife movement corridors in combination with other reasonably foreseeable actions.

Alternative 4 would also result in adverse impacts to habitat linkages and wildlife movement corridors. Although these impacts would not be considered significant and unmitigable, they would contribute to overall cumulative effects. Under Alternative 4, the designated DRECP Variance Lands would have the potential to undermine the integrity and long-term conservation value of the conservation strategy for desert tortoise. The inclusion of DRECP Variance Lands in this alternative and the uncertainty of future management of these lands undermines the strength of the reserve design envelope under Alternative 4. The designation of DRECP Variance Lands scattered across the Plan Area leads to uncertainty regarding the protection and long-term viability of the habitat linkages within the reserve design envelope. Alternative 4 would contribute to cumulative effects to desert tortoise in combination with other reasonably foreseeable actions.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-4, as well as applicable county General Plans and other ongoing activities, would result in cumulative effects to habitat linkages and wildlife movement corridors. Within the previously mentioned six ecoregion subareas, approximately 115,000 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 39,300 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include transmission and pipelines, recreation area plans, mining projects, a high speed rail line, a 63-mile freeway corridor, biofuel projects (45,500 acres), the Eagle Mountain Storage Facility (2,220 acres), and habitat con-

ervation projects (California State Parks 28,275-acre resource protection acquisition area, Salton Sea Species Conservation Habitat Project on 3,770 acres, and the Sonny Bono Salton Sea Comprehensive Plan) (see Table IV.25-4). It is anticipated that all reasonably foreseeable actions would be subject to further review and evaluation in compliance with federal, state, and local regulations, and that additional mitigation measures would be imposed on these projects as a result of the approval process. These measures, along with the resource conservation and protection plans, would reduce cumulative effects to habitat linkages and wildlife movement corridors.

***Impact BR-7: Siting, construction, decommissioning, and operational activities would result in habitat fragmentation and isolation of populations of listed and sensitive plants and wildlife.***

Proposed Covered Activities under the DRECP action alternatives could potentially fragment habitats and result in isolation of populations of listed and sensitive plants and wildlife. The potential adverse effects of habitat fragmentation and population isolation would be avoided and minimized through the implementation of the DRECP conservation strategy, including the reserve design envelope and the Monitoring and Adaptive Management Program. Impacts of habitat fragmentation and population isolation would be avoided and minimized through requiring renewable energy development to occur within DFAs and through the implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities. Impacts of the action alternatives would be less than significant with implementation of the DRECP and CMAs as part of the overall DRECP conservation strategy. Overall, the proposed action alternatives' contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-4, as well as applicable county General Plans and other ongoing activities, would result in cumulative effects to habitat fragmentation and population isolation. The majority of reasonably foreseeable renewable energy projects and large projects would require mitigation, minimization, and avoidance measures to reduce impacts. These measures, along with the resource conservation and protection plans, would reduce cumulative effects to habitat fragmentation and population isolation.

***Impact BR-8: Construction of generation facilities or transmission lines would result in increased predation of listed and sensitive wildlife species.***

Proposed Covered Activities under the DRECP action alternatives would potentially result in an increase in predator populations in the Plan Area, which could in turn adversely affect susceptible Covered Species. Higher predator densities and hence high predation rates are

a documented effect of increased human development in the Plan Area. Disturbed landscapes with relatively high levels of human activity often attract and supplement predators such as ravens. Ravens also occur in undisturbed areas that provide forage, water, and nesting substrate. Approximately 60,000 acres of disturbance may occur within previously undisturbed landscapes under the action alternatives. Impacts occurring within primarily undisturbed portions of DFAs in the Kingston and Funeral Mountains, Pinto Lucerne Valley and Eastern Slopes, Providence and Bullion Mountains, and West Mojave and Eastern Slopes ecoregion subareas may lead to increased predation. Disturbance would likely increase predation rates, particularly on susceptible species such as tortoise, Mojave fringed-toed lizard, and nesting bird species.

Proposed DRECP reserve design implementation would avoid and minimize impacts related to increased predation. Predation would also be avoided or minimized through application of a Common Raven Management Plan that includes guidance on removal of trash and organic waste, measures to minimize introduction of new water sources including pooling of water from dust control, removal of carcasses from bird and bat collisions, and reduction in new nesting and perching sites where feasible.

Implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities on Covered Species (discussed earlier) would also reduce adverse impacts. Implementation of the CMAs as part of the overall DRECP conservation strategy and the Common Raven Management Plan would minimize adverse effects from predation. Overall, the proposed action alternatives' contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-5, as well as applicable county General Plans and other ongoing activities, would result in cumulative effects from predation. Within the Kingston and Funeral Mountains, Pinto Lucerne Valley and Eastern Slopes, Providence and Bullion Mountains, and West Mojave and Eastern Slopes ecoregion subareas, approximately 68,000 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 21,400 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include pipeline and transmission projects, a high-speed rail line, a 63-mile freeway corridor, and the California State Parks 28,275-acre resource protection acquisition area. The majority of reasonably foreseeable renewable energy projects and large projects located within these ecoregion subareas would require mitigation, minimization, and avoidance measures to reduce impacts to vegetation. These measures, along with the resource protection plans, would reduce cumulative impacts related to predation.

***Impact BR-9: Operational activities would result in avian and bat injury and mortality from collisions, thermal flux or electrocution at generation and transmission facilities.***

Proposed Covered Activities under the action alternatives would result in an increase in operations-related impacts to Covered Species, primarily to avian and bat species from wind turbines, solar facilities, and transmission facilities in the Plan Area. Collision with transmission systems, wind turbines, power towers, heliostats and solar arrays, injury or mortality from exposure to concentrated solar flux, and electrocution are all known impacts of renewable energy generation facilities to avian and bat species. The majority of impacts from renewable energy and transmission development (96%) would occur within the Cadiz Valley and Chocolate Mountains, Imperial Borrego Valley, Pinto Lucerne Valley and Eastern Slopes, and West Mojave and Eastern Slopes ecoregion subareas. Operational activities would result in increases of bird and bat collision rates at renewable energy and transmission facilities.

Operational impacts would result in take of Covered Species. Based on the location of DFAs and MW distribution, it is expected that take of Covered Species associated with Agricultural habitats would be particularly affected. Reserve design components and implementation of CMAs to avoid and minimize impacts inside and outside the DFAs and CMAs would offset some adverse impacts to Covered Species from collision. Resource-specific CMAs would also be required for Covered Activities impacting specific resources. Measures would also include habitat compensation and habitat restoration measures.

Proposed DRECP reserve design implementation would avoid and minimize impacts related to an expected increase of collisions. CMAs require habitat assessments and pre-construction surveys. These CMAs would be implemented to avoid or minimize risk to Covered Species localities. CMAs would also require habitat setbacks to avoid and minimize impacts. Applicants would be required to develop and implement a project-specific Bird and Bat Operational Strategy to further avoid and minimize direct mortality due to operation of facilities.

Implementation of avoidance and minimization CMAs and compensation CMAs established to offset the impacts of Covered Activities on Covered Species (discussed earlier) would reduce adverse impacts. Implementation of the CMAs as part of the overall DRECP conservation strategy would reduce adverse effects. Overall, the proposed action alternatives' contribution to cumulative effects would be reduced with implementation of the reserve design and CMAs.

The reasonably foreseeable actions described in Tables IV-25-1 through IV.25-4, as well as applicable county General Plans and other ongoing activities, would result in considerable cumulative effects from collisions. Within the Cadiz Valley and Chocolate Mountains, Pinto Lucerne Valley and Eastern Slopes, and West Mojave and Eastern Slopes ecoregion sub-

areas, approximately 84,700 acres of renewable energy projects are operational, under construction, and approved (see Table IV.25-1). An additional 24,600 acres of renewable energy projects are under review (see Table IV.25-2). Other large projects within these ecoregion subareas include transmission lines, a high-speed rail line, a 63-mile freeway corridor, and the California State Parks 28,275-acre resource protection acquisition area (see Table IV.25-4). The majority of reasonably foreseeable renewable energy projects and large projects located within these ecoregion subareas would require mitigation, minimization, and avoidance measures to reduce impacts to avian species and bats. These measures, along with resource protection area acquisitions, would reduce cumulative effects to avian species and bats.

### **CEQA Significance Determination**

**BR-1: Siting, construction, decommissioning, and operational activities would result in loss of native vegetation.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area under the No Action Alternative would result in considerable contributions to cumulative effects to native vegetation.

The incremental contribution of the DRECP action alternatives would be reduced with designation of Reserve Design Lands as well as implementation of the CMAs to avoid, minimize, and compensate for adverse impacts to natural communities. The action alternatives are not expected to result in considerable contributions to the Plan Area cumulative effects.

**BR-2: Siting, construction, decommissioning, and operational activities would result in adverse effects to jurisdictional waters and wetlands.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area would result in cumulative effects. The incremental contribution of the DRECP action alternatives would be reduced with designation of Reserve Design Lands as well as implementation of the CMAs to avoid, minimize, and compensate for adverse impacts to jurisdictional waters and wetlands. The proposed action alternatives are not expected to result in considerable contributions to the Plan Area cumulative effects.

**BR-3: Siting, construction, decommissioning, and operational activities would result in degradation of vegetation.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area would result in cumulative effects. Mitigation would be required for the cumulative projects as lead agencies would require developers to reduce dust, exposure to fire, and reduce invasive plants. For example, the BLM has specific regulations required for any developer to reduce the introduction of invasive plant species.

The incremental contribution of the DRECP action alternatives would be reduced with designation of Reserve Design Lands as well as implementation of the CMAs to avoid, minimize, and compensate for adverse impacts to jurisdictional waters and wetlands. CMAs include a coordinated Monitoring and Adaptive Management Program, as part of the overall DRECP conservation strategies to avoid and minimize the adverse impacts from the creation of dust, use of dust suppressants, exposure to fire, implementation of fire management techniques, and the introduction of invasive plants. The proposed action alternatives are not expected to result in considerable contributions to the Plan Area cumulative effects. Therefore, this impact would be less than cumulatively significant.

BR-4: Siting, construction, decommissioning, and operational activities would result in loss of listed and sensitive plants; disturbance, injury, and mortality of listed and sensitive wildlife; and habitat for listed and sensitive plants and wildlife. The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area, combined with the impacts of the renewable energy and transmission development under the No Action Alternative and Alternative 2, would result in cumulatively significant impacts. Implementation of Reserve Design Lands and CMAs under Alternative 2 would reduce or offset effects; however, impacts to desert tortoise and Mohave ground squirrel would remain significant, resulting in a significant cumulative contribution to Plan Area effects for these species.

The incremental contribution of the Preferred Alternative and Alternatives 1, 3, and 4 would be reduced to less than cumulatively considerable with designation of Reserve Design Lands as well as implementation of the CMAs as part of the overall DRECP conservation strategies that would result in avoidance, minimization, and compensation of adverse impacts to Covered and Non-Covered Species. These alternatives are not expected to result in significant contributions to the Plan Area cumulative effects. Therefore, this impact would be less than cumulatively significant.

**BR-5: Siting, construction, decommissioning, and operational activities could result in loss of nesting birds.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area would contribute to cumulative impacts to nesting and migratory birds (see summary discussion above). It is anticipated that all reasonably foreseeable actions would be subject to further review and evaluation in compliance with federal, state, and local regulations, and that additional mitigation measures would be imposed on these projects as a result of the approval process. These measures, along with the resource conservation and protection plans, would reduce, but not eliminate, cumulative effects to nesting and migratory birds.

The incremental contribution of the DRECP action alternatives would be reduced to less than cumulatively significant with designation of Reserve Design Lands as well as

implementation of the CMAs as part of the overall DRECP conservation strategies that would result in avoidance, setbacks, minimization, and compensation of nesting and migratory birds. These alternatives are not expected to result in considerable contributions to the Plan Area cumulative effects. Therefore, this impact would be less than cumulatively significant.

**BR-6: Siting, construction, decommissioning, and operational activities would adversely affect habitat linkages and wildlife movement corridors, the movement of fish, and native wildlife nursery sites.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area, combined with the impacts of the renewable energy and transmission development under the No Action Alternative and Alternative 2, would result in cumulatively significant impacts. Implementation of Reserve Design Lands and CMAs under Alternative 2 and Alternative 4 would reduce or offset effects; however, impacts to habitat linkages and wildlife movement corridors would remain significant, resulting in a considerable contribution to Plan Area effects for these species.

The incremental contribution of the Preferred Alternative and Alternatives 1 and 3 would be reduced to less than cumulatively considerable with designation of Reserve Design Lands as well as implementation of the CMAs as part of the overall DRECP conservation strategies that would result in avoidance, minimization, and compensation of adverse impacts to habitat linkages and wildlife movement corridors. These alternatives are not expected to result in considerable contributions to the Plan Area cumulative effects.

**BR-7: Siting, construction, decommissioning, and operational activities would result in habitat fragmentation and isolation of populations of listed and sensitive plants and wildlife.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area under the No Action Alternative would result in cumulatively considerable effects.

The incremental contribution of the DRECP action alternatives would be reduced with designation of Reserve Design Lands as well as implementation of the CMAs to avoid, minimize, and compensate for adverse impacts to habitat fragmentation and isolation. The proposed action alternatives are not expected to result in considerable contributions to the Plan Area cumulative effects.

**BR-8: Construction of generation facilities or transmission lines would result in increased predation of listed and sensitive wildlife species.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area would result in cumulative effects to Covered and Non-Covered Species from predation. Individual cumulative projects would be required to mitigate their cumulative and indirect impacts

from predation by contributing to implementation of the USFWS Regional Raven Management Program. The fees contributed by the project owner would fund implementation of raven removal actions and education and outreach efforts reducing effects of individual projects; however, cumulative effects would not be eliminated with these measures.

The incremental contribution of the DRECP action alternatives would be reduced with designation of Reserve Design Lands as well as implementation of the CMAs to avoid, minimize, and compensate for adverse impacts to Covered and Non-Covered Species from predation. The proposed action alternatives are expected to result in a less than considerable contributions to the Plan Area cumulative effects.

**BR-9: Operational activities would result in avian and bat injury and mortality from collisions, thermal flux or electrocution at generation and transmission facilities.** The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area under the No Action Alternative would result in cumulatively considerable effects. The majority of projects located within the Plan Area would require mitigation, minimization, and avoidance measures to reduce impacts to avian species and bats. These measures, along with resource protection area acquisitions, would reduce cumulative effects to avian species and bats; however, cumulative effects would not be eliminated with these measures.

Operational impacts would result in take of Covered Species. Reserve design components and implementation of CMAs to avoid and minimize impacts inside and outside the DFAs and CMAs would offset some adverse impacts to Covered Species from collision. Resource-specific CMAs would also be required for Covered Activities impacting specific resources. Measures would also include habitat compensation and habitat restoration measures. The incremental contribution of the DRECP action alternatives would be reduced or offset with these measures. The proposed action alternatives are expected to result in a less than considerable contribution to the Plan Area cumulative effects to Covered Species from collision.

### **Critical Habitat Impacts**

Critical habitat for Covered and Non-Covered Species within the Plan Area is located predominantly within BLM designations or other conservation areas. Impacts to critical habitat, particularly for the desert tortoise, may occur. The impacts of the past, present, and other reasonably foreseeable actions proposed within the Plan Area could result in cumulatively considerable effects to critical habitat. The majority of projects located within the Plan Area would require mitigation, minimization, and avoidance measures to reduce impacts to critical habitat. These measures, along with acquisitions, would reduce cumulative effects to critical habitat; however, cumulative effects would not be eliminated altogether.

Overall, for the majority of species, DRECP action alternatives would impact less than 1% of critical habitat for Covered and Non-Covered Species. The incremental contribution of the DRECP action alternatives would be reduced with designation of Reserve Design Lands as well as implementation of the critical habitat CMAs to avoid and minimize adverse impacts. The proposed action alternatives are expected to result in a less than considerable contribution to the Plan Area cumulative effects on critical habitat.

### **IV.25.3.8 Cultural Resources**

This section evaluates the potential for DRECP, and other development projects within the vicinity of DRECP, to have cumulative impacts on cultural resources. For a listing of cumulative projects within the Plan Area, including locations, acreage, and status, see Tables IV.25-1 through IV.25-4.

For the cultural resources cumulative analysis, the geographic area is considered the entire Plan Area that spans the California deserts and adjacent areas from Imperial County and eastern San Diego County in the south to Inyo County and eastern Kern County in the north (see Figure I.0-1, Plan Area). The Plan Area is bordered by Baja California, Mexico, to the south; Arizona and Nevada to the east; the Sierra Nevada and Tehachapi mountain ranges to the north and northwest; and the Peninsular and Transverse mountain ranges to the west. The Plan Area covers approximately 22,587,000 acres (35,000 square miles). The analysis of cumulative impacts from the DRECP also addresses transmission Outside the Plan Area. Approximately 780 miles of transmission lines covering over 30,000 acres would need to be constructed to support renewable energy development within the Plan Area. Future transmission corridors would pass through portions of the following counties: Alameda, Fresno, Kern, Kings, Los Angeles, Merced, Riverside, San Bernardino, San Diego, San Joaquin, and Stanislaus. The construction, operation and maintenance, and decommissioning of these transmission lines could result in additional impacts to cultural resources.

Estimated numbers of cultural resource sites within various portions of the Plan Area were calculated by overlaying the BLM Cultural Resources Geodatabase (CRG) for the Plan Area with the areas where renewable energy could potentially be developed for the No Action Alternative, Development Focus Areas, and Conservation Planning Areas for each alternative. The CRG, compiled through March 2013 by BLM, contains cultural resource locations and survey information. This data was gathered from several sources including: (1) BLM field office geodatabases within the Plan Area; (2) BLM GIS 2004 Legacy data; (3) South Coastal Information Center Mapping for Eastern San Diego County; (4) the West Mojave Plan Court Remedy records review mapping; (5) mapping associated with renewable energy projects; and (6) State Historic Resource Information Mapping Project. While current up to March 2013, it is important to mention that this data has varying degrees of completeness, with information on some cultural resources being more detailed than others. In

addition, California Register of Historic Resources eligibility was not considered as a site attribute for the CRG. These models suggest an estimated 11,689 cultural resource sites could be directly impacted by renewable energy development in the No Action Alternative (Appendix R2, Table R2.8-1); 12,543 sites within the Preferred Alternative (Appendix R2, Table R2.8-6); 18,928 sites in Alternative 1 (Appendix R2, Table R2.8-14); 19,925 sites in Alternative 2 (Appendix R2, Table R2.8-21); 13,265 sites in Alternative 3 (Appendix R2, Table R2.8-28); and 15,787 sites in Alternative 4 (Appendix R2, Table R2.8-35). It is important to keep in mind that these figures are rough estimates and that large portions of the Southern California Desert remain unsurveyed and may contain cultural resources. The identification, evaluation, and treatment of cultural resources pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800 would need to occur on a project-specific level to ensure that any, as-yet unidentified cultural resources are taken into account.

***Impact CR-1: Plan components could affect historic and built-environment resources.***

Impacts to historic and built-environment resources from all phases of renewable energy development are described in Chapter IV.8, Section IV.8.2, Typical Impacts Common to All Alternatives. Ground disturbance activities associated with the construction of past, present, and reasonably foreseeable projects listed in Tables IV.25-1 through IV.25-4 have the potential to have adverse cumulative effects to thousands of buried and aboveground historic resources in addition to built-environment resources. The operation and maintenance of multiple renewable energy projects could result in cumulative, long-term impacts to the visual integrity of historic trails, landscapes, and buildings. Continuous noise and vibrations from wind turbines could result in long-term impacts to the structural integrity of buildings and would degrade the sensory setting of historic resources.

Four recent renewable energy projects in the Plan Area—Desert Sunlight Solar Farm, Genesis Solar Energy Project, Palen Solar Power Project, and Blythe Solar Power Project—provide examples of the types of resources present and the cumulative impacts anticipated for these projects. For these projects, a total of 29,574 acres were subject to pedestrian surveys resulting in the identification of 554 cultural resources (BLM 2012). Examples of historic and built-environment resources identified include debris scatters, remains of military camps associated with the Desert Training Center/California Arizona Maneuver Area, water conveyance systems (e.g., Colorado River Aqueduct), roads, transmission lines, rock cairns and alignments, and mine claim markers, mining districts and townsites (e.g., Eagle Mountain Mine and Townsite). A large California Register of Historical Resources (CRHR)-eligible historic district, known as the Desert Training Center Cultural Landscape, has also been identified (Bagwell and Kline 2010, Braun and Gates 2013, Braun et al. 2013).

Cumulative impacts to historic and built-environment resources from these projects include cumulative effects to the Desert Training Center/California Arizona Maneuver Area Cultural Landscape from the physical damage to contributors to these resources, such as remains of military camps. Cumulative impacts from renewable energy projects similar to those described for the solar power projects would occur to historic and built-environment resources located in other portions of the Plan Area.

Other large projects that would result in cumulative effects to historic and built-environment resources in addition to renewable energy facilities include transmission lines, mine expansions, pipelines, high-speed rail construction, a fiber optic network, etc. (Table IV.25-4). Projects such as the Calnev Pipeline Expansion Project, which would result in 2,481 acres of ground disturbance or the Desert Xpress Enterprises High-Speed Rail, which would result in 972 acres of ground disturbance, could result in the degradation of numerous historic resources, particularly archaeological sites.

***Impact CR-2: Plan components could affect prehistoric resources.***

Impacts to prehistoric resources from all phases of renewable energy development are described in Section IV.8.2, Typical Impacts Common to All Alternatives. Ground disturbance activities associated with the construction of past, present, and reasonably foreseeable projects listed in Tables IV.25-1 through IV.25-4 have the potential to have adverse cumulative effects on thousands of buried and aboveground prehistoric resources. The operation and maintenance of multiple renewable energy projects could result in cumulative, long-term impacts to the visual integrity of prehistoric trails, traditional cultural landscapes, and sacred sites. Continuous vibrations from wind turbines could damage or degrade rock art sites, and the constant noise generated from wind turbines could degrade the sensory setting of prehistoric resources. As discussed previously, information on cultural resources recorded for the Desert Sunlight Solar Farm, Genesis Solar Energy Project, Palen Solar Power Project, and Blythe Solar Power Projects provide an indication of the types of prehistoric resources present in a portion of the Plan Area (BLM 2012).

Examples of prehistoric resources identified include lithic scatters, ceramic scatters (e.g., pot drops), cairns, geoglyphs, petroglyphs, temporary camps, trails, rock rings or cleared areas, thermal cobble features, quarry sites, and traditional cultural properties (e.g., North Chuckwalla Mountains Prehistoric Quarry District). A large CRHR-eligible historic district, known as the Prehistoric Trails Network Cultural Landscape (PTNCL), has also been identified (Bagwell and Kline 2010, Braun and Gates 2013, Braun et al. 2013). Cumulative impacts to prehistoric resources from these projects include significant cumulatively considerable impacts to the PTNCL regional prehistoric trails and the resources and destinations that they connected.

Cumulative impacts similar to those described for the solar power projects would occur to prehistoric resources located in other portions of the Plan Area from renewable energy projects. Examples of other large projects that would result in cumulative effects to prehistoric resources in addition to renewable energy facilities are described under Impact CR-1.

***Impact CR-3: Plan components could disturb human remains or cultural items, including funerary objects, sacred objects, and objects of cultural patrimony.***

Impacts to human remains or associated cultural resources from all phases of renewable energy development are described in Section IV.8.2, Typical Impacts Common to All Alternatives. Disturbance of human remains or associated cultural items, including funerary objects, sacred objects, and objects of cultural patrimony could result from construction-related ground disturbance activities. Ground disturbing activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and associated cultural items, which are typically unmarked. In addition, cultural resource surveys and consultation with the State Historic Preservation Office (SHPO) and any affected parties conducted prior to implementation of these projects could identify human remains visible on the ground surface and these areas would be avoided through the use of a buffer or fencing. It must be noted, however, that graves are often unmarked and the unintentional discovery of human remains or associated cultural resources during all phases of development of renewable energy projects and other large projects listed in Tables IV.25-1 through IV.25-4, could result in adverse cumulative effects to these resources. For known human remains and associated cultural resources, such as cemeteries or individual marked gravesites, the operation and maintenance of multiple renewable energy projects could result in cumulative, long-term impacts to the visual and sensory setting of these resources. For unknown human remains and associated cultural resources, ground-disturbing activities and continuous vibrations from operation and maintenance of existing projects could disturb these resources.

***Impact CR-4: Plan components could impact cultural landscapes.***

Impacts to cultural landscapes are described in Section IV.8.2, Typical Impacts Common to All Alternatives. Ground disturbance activities associated with the construction of past, present, and reasonably foreseeable projects listed in Tables IV.25-1 through IV.25-4 have the potential to damage or alter cultural landscapes. Ground disturbance and site characterization activities could cause damage to cultural or natural features of a cultural landscape. Construction vehicles and increased dust generated during ground disturbances could temporarily impact the visual setting of the cultural landscapes. Long-term impacts on the visual setting of cultural landscapes could occur from the permanent presence of project structures. Soil erosion from water used to clean roads and facilities during operations and maintenance activities could impact the visual

setting of cultural landscapes. The long-term presence of renewable energy structures change the visual setting and can affect the value of cultural landscapes. In addition, many of the projects in Tables IV.25-1 through IV.25-4 are within proximity of the DRECP DFAs and so would be more likely to combine with the development permitted under the DRECP to result in cumulative effects to these landscapes.

### **CEQA Significance Determination**

#### **CR-1: Plan components could affect historic period built-environment resources.**

Potentially thousands of historic and built-environment resources could be disturbed by implementation of the Plan and from the projects listed in Tables IV.25-1 through IV.25-4. Implementation of Mitigation Measure CR-1a would reduce the majority of these impacts to less than cumulatively significant. However, impacts to the visual and sensory setting of historic trails, buildings, and other historic resources whose significance depends in large part upon setting and feeling, could occur from the permanent presence of multiple renewable energy facilities permitted under the DRECP. These effects would be cumulatively significant. Due to the size of the contribution of the projects permitted under the DRECP and because there is no mitigation available to reduce the impacts to visual and sensory settings, the contribution of the DRECP would be cumulatively considerable for all alternatives.

**CR-2: Plan components could affect prehistoric and historic period archaeological resources.** Potentially thousands of prehistoric resources could be disturbed by implementation of the Plan and from the projects listed in Tables IV.25-1 through IV.25-4. Depending on the resource, implementation of Mitigation Measure CR-2a could reduce impacts to a less than significant level. However, the majority of the cumulative impacts to prehistoric resources from past, present, and reasonably foreseeable future projects would be significant and unavoidable. Impacts to the visual and sensory setting of traditional cultural landscapes, sacred sites, and other prehistoric resources whose significance depend in large part upon setting and feeling, could occur from the permanent presence of multiple renewable energy facilities and other large projects. Due to the size of the contribution of the projects permitted under the DRECP and because there is no mitigation available to reduce the impacts to visual and sensory settings, the contribution of the DRECP would be cumulatively considerable for all alternatives.

**CR-3: Plan components could disturb human remains or associated cultural resources.** Disturbance of human remains or associated cultural items, including funerary objects, sacred objects, and objects of cultural patrimony could result from construction-related ground disturbance activities. Ground disturbing activities such as grading, vegetation clearing, and foundation excavations could lead to the unintentional discovery of burials and associated cultural items, which are typically unmarked. Cultural resource sur-

veys and consultation with the SHPO and any affected parties conducted prior to implementation of these projects could identify human remains visible on the ground surface. Implementation of Mitigation Measure CR-3a would help protect human remains and associated cultural resources from ground-disturbance. However, the potential inadvertent disturbance of unmarked human remains and associated cultural resources from all phases of renewable energy development of the DRECP in combination with the future projects listed in Tables IV.25-1 through IV.25-4 would be cumulatively significant and unavoidable. Impacts to the visual integrity and sensory setting of cemeteries and other marked gravesites from the permanent presence of multiple renewable energy facilities and other large industrial facilities would be cumulatively significant and unavoidable. Due to the size of the contribution of the projects permitted under the DRECP and because there is no mitigation available to reduce the impacts to visual and sensory settings, the contribution of the DRECP would be cumulatively considerable for all alternatives.

**CR-4: Plan components could impact cultural landscapes.** Disturbance or alteration to cultural landscapes could result from all phases of renewable energy development under the DRECP and the cumulative projects listed in Tables IV.25-1 through IV.25-4. Because of the proximity of many of the projects listed in Tables IV.25-1 through IV.25-4 with the DRECP DFAs, the impacts to cultural landscapes could combine to result in a significant cumulative impact. Mitigation Measure CR-4a (see Section IV.8.3.2.1.1) would reduce the contribution of the DRECP but due to the number and size of development anticipated, the contribution would remain cumulatively considerable for all alternatives.

### **IV.25.3.9 Native American Interests**

The geographic area considered in this cumulative analysis is the same as that analyzed in Section IV.25.3.8, and includes the entire Plan Area, approximately 22, 587, 000 acres (35,000 square miles) in addition to transmission outside the Plan Area. The site reconnaissance and planning, construction, operations, maintenance, and decommissioning of these transmission lines will result in impacts to resources important to tribes.

Tribal interests include two broad areas, as described in detail in Chapter III.9, Section III.9.4, Physical World Resources and Process-Related Concerns. The categories are consistent with the Native American Element (NAE) of the 1980 CDCA Plan, the goal of which was to address Native American values associated with “traditional heritage and religious concerns” and the “long-range goals and planning efforts of reservation governments” in or adjacent to the CDCA (BLM 1980a, Native American Element).

Maps representing NAEs show “concentrated, sensitive areas of traditional Native American secular and religious uses” and their location within and in relation to traditional tribal territories and Areas of Critical Environmental Concern (ACEC) (BLM 1980a, Native American

can Element). Figures IV.9-1 through IV.9-6 are based on these original maps, with the DRECP boundaries overlaid on top of the boundary of the CDCA. These maps also show DRECP-specific elements including ecoregion subareas, Development Focus Areas, and existing and proposed conservation lands. Tables R2.9-1 through R2.9-41 list acres of NAEs by ecoregion subarea per alternative and number of acres impacted by technology type (solar, wind, geothermal, transmission). These tables also identify acres of NAE in Conservation Lands, Available Development Areas, and BLM Land Use Plan Amendments.

It is important to note that the CDCA-designated NAE areas, while important, are not an exhaustive list of places or areas important to Native Americans. It will be necessary to conduct research, consultation, and meaningful engagement with affected Native American communities on a project-specific level to identify additional areas.

***Impact TL-1: Plan components could affect resources of cultural and spiritual importance to tribes.***

Impacts to resources of cultural and spiritual importance to tribes from all phases of renewable energy development are described in Chapter IV.9, Section IV.9.2, Typical Impacts Common to All Alternatives. All phases of renewable energy development associated with past, present, and reasonably foreseeable projects listed in Tables IV.25-1 through IV.25-4 have the potential to have adverse cumulative impacts to resources of cultural and spiritual importance to tribes. The No Action Alternative, all of the action alternatives, and transmission in the Outside the Plan Area would result in an adverse cumulative impact on cultural and spiritual resources of tribal concern.

Site characterization activities, including those related to Outside the Plan Area transmission, are unlikely to result in damage of physical world resources of tribal concern. However, these activities could include geotechnical borings, installation of temporary meteorological stations, access roads, and staging areas, which do have the potential to impact physical world resources of tribal concern. Process-related issues are more likely to occur during site characterization activities. These issues include but are not limited to consultation, ethnography, document review, confidentiality, monitoring, repatriation, access, and environmental justice. These process-related concerns, which are already difficult for renewable energy developers and agencies to avoid, would be compounded by the addition of the DRECP and associated renewable energy development resulting in a cumulative impact on process-related concerns.

For example, the ancestral lands of several California Desert tribes are included in much of the Plan Area. The addition of DRECP-related renewable energy projects to those cumulative projects identified in Tables IV.25-1 through IV.25-4 would result in the need for these tribes to conduct additional document review, attend additional consultation meetings, and

attempt to protect their culturally and spiritually important resources, straining their already limited resources.

Site construction activities, including those related to Outside the Plan Area transmission, have the greatest potential to cumulatively impact physical world resources of tribal concern because of the increased ground disturbance during this phase. With the addition of the DRECP and associated renewable energy development there would be a cumulative impact on physical world resources important to tribes, through the damage, disturbance, or alteration of these resources. In addition, there would be a cumulative impact on the setting of culturally and spiritually important tribal resources from the visual impact created from utility-scale renewable energy facilities (e.g., wind turbines, solar power towers, solar troughs) for those resources for which the setting is an integral component of the resource's significance. For example, during the Palen Solar Electric Generating System siting review by the CEC, an extensive ethnographic landscape was identified and found to have a significant and unavoidable impact from the proposed installation of two 750-foot tall solar power towers. The installation of similar types of renewable energy development could cumulatively impact similar cultural and ethnographic landscapes. Site decommissioning, reclamation, and abandonment would have the least amount of cumulative impacts, if ground disturbance is confined to the original disturbance during construction. Fewer cumulative impacts to culturally and spiritually important resources are likely during the operations and maintenance of renewable energy facilities. However, as with all phases of renewable energy development, there is a potential to cumulatively impact process-related concerns if consultation and communication between project developers, agencies and stakeholders is inadequate.

***Impact TL-2: Costs associated with the participation in environmental documents required by the Plan would be disproportionately borne by tribal governments and organizations.***

Impacts of the projects permitted under the DRECP associated with tribal process concerns include those that place disproportionate stress upon services offered by tribal governments and organizations to their members. In particular, this includes stress on those individuals and departments that participate in the CEQA and NEPA process. These impacts would be similar for the renewable energy projects under environmental review or first-in-line, listed in Tables IV.25-2 and IV.25-3, because they are also undergoing or will undergo CEQA and NEPA review. Some of the projects identified in Table IV.25-4 are also undergoing or will undergo CEQA and NEPA review and would similarly combine with the DRECP to result in cumulative effects disproportionately borne by tribal governments and organizations. Mitigation Measure TL-2a (see Section IV.9.3.2.1.1) would provide support to tribal governments to help reduce these costs.

## CEQA Significance Determination

**TL-1: Plan components could affect resources of cultural and spiritual importance to tribes.** There are currently an unknown number of physical world resources located throughout the Plan Area that could be disturbed by implementation of the Plan and from the cumulative projects listed in Table IV.25-1 through IV.25-4, which would combine to result in cumulative significant impacts to physical world resources of cultural and spiritual importance to tribes. In addition, tribal concerns related to process are likely from renewable energy projects developed as part of the DRECP, and in combination with the cumulative projects in Tables IV.24-1 through IV.25-4, would result in cumulative significant impacts to resources of cultural and spiritual importance to tribes. Mitigation Measure (TL-1a), identified in Section IV.9.3.1.1) may reduce some of the cumulative impacts to cultural and spiritual resources important to tribes, but not to a level that would be less than significant. Thus the cumulative impacts from implementation of the DRECP through any action alternative or the No Action Alternative would be significant and unavoidable.

**TL-2: Costs associated with the participation in environmental documents required by the Plan would be disproportionately borne by tribal governments and organizations.** Impacts of the projects permitted under the DRECP in combination with the cumulative projects listed in Tables IV.25-2 and IV.25-3 associated with tribal process concerns include those that place disproportionate stress upon services offered by tribal governments and organizations to their members. Impact TL-2 would be lessened with implementation mitigation measures; but the specific financial impacts associated with participating in CEQA, NEPA, and consultation processes would remain a significant cumulative impact. Due to the number and size of the projects associated with the DRECP, the contribution would be cumulatively considerable for all alternatives.

### IV.25.3.10 Paleontological Resources

The geographic area considered in this paleontological cumulative analysis is the same as that analyzed in Section IV.25.3.8. It includes the entire Plan Area, approximately 22,587,000 acres (35,000 square miles) in addition to transmission outside the Plan Area. Impacts to paleontological resources are analyzed based on several factors, including: the distribution of known fossil localities and the potential fossil-yield of the geologic units underlying the Plan Area; the location, extent, and depth of a project's ground disturbance; the degree to which unintended increases in public access could encourage unauthorized collection, theft or vandalism; and the effectiveness of avoidance/minimization measures in the DRECP and in existing regulations.

Within the Plan Area, impacts to paleontological resources were analyzed using Geographic Information Systems (GIS). The proposed Development Focus Areas (DFAs) for each alter-

native were evaluated according to the extent to which they intersect geologic units with various Potential Fossil Yield Classification (PFYC) classes (i.e., low/very low PFYC Class 1 and 2, moderate/unknown PFYC Class 3, and high/very high PFYC Class 4 and 5). It was presumed that DFAs that cover more area underlain by geologic units with a high or very high PFYC rating are more likely to adversely impact significant paleontological resources than those underlain by geologic units with a low or very low PFYC rating. This quantitative impact analysis was performed at the Plan-wide level and by ecoregion subarea. Ecoregion subareas were considered an appropriate geographic unit for paleontological resource evaluation because their boundaries generally coincide with important geologic and geomorphic transitions (see Appendix R2, Table R.2.10-5).

***Impact PR-1: Land disturbance could result in loss, damage, or destruction of significant paleontological resources.***

Impacts to paleontological resources from all phases of renewable energy development are described in Chapter IV.10, Section IV.10.2, Typical Impacts Common to All Alternatives. The extent and magnitude of potential impacts to paleontological resources depend on the resources discovered and the effectiveness of mitigation measures. The bulk of potential impacts to paleontological resources would typically occur during the excavation and earth-moving phases of construction. Fewer impacts to paleontological resources from land disturbance are anticipated during site characterization, decommissioning, and operations and maintenance activities.

The cumulative projects in Tables IV.25-1 through IV.25-4 in combination with the renewable energy projects associated with the DRECP have the potential to result in cumulative impacts to paleontological resources. The PFYC Class 3, 4 and 5 areas (i.e., those areas with a moderate/unknown or high/very high potential for paleontological resources) range from 82% in the No Action Alternative, 94.2% or 147,888 acres in the Preferred Alternative, 91.8% or 144,367 acres in Alternative 1, 91.8% or 137,374 in Alternative 2 (although the percentage is the same between Alternatives 1 and 2, Alternative 2 has more than two times as much Class 4 or 5 areas), 93% or 148,775 acres in Alternative 3, and 93.5% or 147,887 acres in Alternative 4. Because many of the cumulative projects are located near DFAs, comparable percentage of PFYC Class 3, 4 and 5 areas are likely. Even with incorporated mitigation strategies, there is a potential during certain excavation activities (as discussed in Section IV.10.2) to disturb, damage, or destroy fossils without first providing an opportunity to identify, study, and/or salvage them. Therefore, a cumulative impact on paleontological resources from land disturbance would occur.

***Impact PR-2: Construction and operational activities could increase the rate of erosion or soil loss or alter drainage patterns such that significant paleontological resources could be removed from their context, fragmented, and/or dispersed.***

There is a potential for the loss, damage, or destruction of near-surface paleontological resources during construction, and operations and maintenance of renewable energy facilities from the influence of development on the agents of erosion and sedimentation. Such impacts caused by projects permitted under the DRECP would combine with similar impacts caused by the renewable projects listed in Tables IV.25-1 through IV.25-3. Projects listed in Table IV.25-4 would also have ground disturbance resulting in similar loss, damage, or destruction to near-surface paleontological resources resulting in a cumulative impact.

The potential for these types of impacts varies based on the type of renewable energy technology employed. Solar energy would have the greatest potential for adverse hydrologic and erosion impacts, but substantial adverse impacts can be avoided or sufficiently minimized through compliance with applicable laws, ordinances, regulations, and standards. These include implementation of stormwater pollution prevention plan design criterion, monitoring water quality and wastewater management, and clean water act and related state and local agency compliance. To the extent these actions reduce impacts on hydrology, drainage, and erosion, they would also reduce impacts on paleontological resources. Therefore, with mitigation incorporated, there would not be a cumulative impact on paleontological resources as a result of erosion or soil loss or the alteration of drainage patterns.

***Impact PR-3: Construction and operational activities that allow increased human access to significant paleontological resources could result in an increase in unauthorized collection or vandalism.***

There is a potential for impacts to paleontological resources during the construction, and operations and maintenance phases of renewable energy projects through unintended increases in public access as a result of the establishment of access roads, corridors, or facilities in otherwise intact and inaccessible areas. This increased access could potentially lead to unauthorized collection activities, theft, or vandalism of paleontological resources. However, because renewable energy and transmission development would not generally be intended to provide public access (unless it interferes with an existing OHV route or other trail), individual projects would preclude public access to the actual generation facilities by installing perimeter fencing and signage. To restrict public access along private roads or transmission corridors, gates could be installed, and signage could be posted to inform the public to remain on public roads and open OHV routes. Generally, those hobbyists and enthusiasts intent on collecting fossils would carry out such unauthorized activities regardless of the location and extent of renewable energy development. In the

event fossils are actually uncovered as a result of construction, grading, and excavation, they would be protected under monitoring and mitigation programs, provided such a program has been implemented per project-specific mitigation. However, despite no concrete evidence of renewable energy development resulting in unauthorized fossil collection activities, there would be minor, incremental cumulative impacts to paleontological resources from increased access to significant paleontological resources.

### **CEQA Significance Determination**

**PR-1: Land disturbance could result in loss, damage, or destruction of significant paleontological resources.** Geologic deposits with a moderate/unknown and a high/very high potential for significant paleontological deposits are widespread throughout the Plan Area where the Plan components and the cumulative projects listed in Tables IV.25-1 through IV.25-4 would create land disturbance and would combine to result in cumulative significant impacts. Implementation of mitigation measures identified in Section IV.10.3.1.1.1 could reduce impacts to paleontological resources for all action alternatives. However, in the No Action Alternative, there is evidence that current mitigation practices are not adequately identifying potentially fossil-bearing geologic units prior to project construction, and thus, for this alternative, the contribution of the DRECP would be cumulatively considerable.

**PR-2: Construction and operational activities could increase the rate of erosion or soil loss or alter drainage patterns such that significant paleontological resources could be removed from their context, fragmented, and/or dispersed.** Construction and operational activities as a result of Plan activities and the cumulative projects listed in Tables IV.25-1 through IV.25-4 could increase the rate of erosion or soil loss or alter drainage patterns such that significant paleontological resources could be removed from their context, fragmented, or dispersed. However, actions to avoid or minimize impacts on hydrology and erosion as discussed in Chapter IV.4, Geology and Soils and Chapter IV.5, Flood, Hydrology, and Drainage, would likewise reduce the potential for cumulative impacts to paleontological resources to a less than significant level.

**PR-3: Construction and operational activities that allow increased human access to significant paleontological resources could result in an increase in unauthorized collection or vandalism.** Renewable energy and transmission development would not generally provide public access and individual projects would preclude public access to the actual generation facilities by installing perimeter fencing and signage. Moreover, there is little data to support that unauthorized collection of significant paleontological resources occurs in renewable energy development areas. Utility corridors would generally follow existing utility lines and access roads. Any additional access provided by renewable energy development under the DRECP would

consist of private easements that would be unauthorized for public use, or would parallel or cross existing public roads or OHV routes. Additional public access (and the potential for an increase in the geographic extent of unauthorized fossil collection activities) would be minor and incremental in nature compared to existing conditions. Therefore, there would be a cumulative impact of such activities, although the impact would be minor and considered less than significant. No mitigation is required.

#### **IV.25.3.11 Land Uses and Policies**

The geographic scope of the cumulative impacts for land use and policies are the individual counties within the DRECP and along the transmission Outside the Plan Area. This is because the existing plans and policies are generally county specific so would not combine to impact areas larger than the county.

##### ***Impact LU-1: Plan components would conflict with existing and planned land uses and related plans and policies.***

Renewable energy generation permitted under the DRECP would generally be concentrated on designated nonfederal lands in Imperial, Kern, Los Angeles, and San Bernardino counties for all the alternatives. The reserve design Conservation Planning Areas of the action alternatives would fall within all the counties in the DRECP, with the largest portions in Kern, Los Angeles, and San Bernardino. The transmission outside the Plan Area would all fall within San Diego, Los Angeles, Riverside, Kern, Fresno, Kings, Merced, San Joaquin, Stanislaus, and Alameda counties.

Renewable energy facilities permitted under the DRECP could impact existing land uses during construction either on or adjacent to a project site by increased noise levels, dust, and emissions from construction equipment; degradation of scenic resources due to the presence of construction activities or equipment; and exposure to hazards or hazardous materials. Long-term operational effects of renewable facilities and the associated transmission lines include the conversion of existing land uses on a project site to new uses or the preclusion of planned land uses. Renewable energy development projects typically require large tracts of land; therefore, it is unlikely that energy facilities would be located at sites with existing built land uses, such as in medium- to high-density residential and commercial areas. With the exception of transmission lines, renewable energy development at the scale considered in the DRECP tends to occur in rural areas, which would result in the conversion of rural land uses, namely agriculture, recreation, and open space.

The list of cumulative projects in Tables IV.25-1 through IV.25-3 could combine with the projects permitted under the DRECP to result in a cumulative impact on land uses, plans, and policies. The DRECP alternatives allocated most renewable energy to Imperial, Kern,

Los Angeles, Riverside, and San Bernardino counties. These counties also have the most existing or reasonably foreseeable renewable energy facilities. For example, renewable energy developed under the DRECP in Imperial County could result in impacts to the existing agriculture use in the Imperial Valley. The projects listed in Tables IV.25-1 and IV.25-2 would convert over 24,000 acres of agricultural land to renewable energy development in Imperial County if all the projects are approved and developed.

This conversion would combine with the conversion from the projects developed under the DRECP to result in a significant impact. The cumulative conversion would be similar for Kern, Los Angeles, Riverside, and San Bernardino counties although much of the existing land use that would be converted would be rural and open space. Mitigation similar to that recommended in Chapter VI.11, Section IV.11.3.2.1.1 would likely be required to reduce impacts to existing land uses such as agriculture or to ensure that development is compatible with existing land use plan designations.

The reserve design could also potentially conflict with existing land uses or convert land to new uses and could combine with projects such as the Salton Sea Species Conservation Habitat Project to restrict existing land uses of some areas and result in a cumulative impact. However, reserve design (Conservation Planning Areas) lands on private or non-BLM public lands would only be assembled from willing sellers.

Construction and operation of transmission facilities are considered compatible uses with most land use designations and are common features within established communities. However, as highlighted in Section IV.25.2.2, for some counties, in particular San Diego, Los Angeles, western Riverside County, and Fresno the general transmission line corridors would be constrained by existing land uses and would potentially result in substantial conflicts with existing uses.

### **CEQA Significance Determination**

**LU-1: Plan components would conflict with existing and planned land uses and related plans and policies.** As described earlier, impacts of the projects permitted under the DRECP and the cumulative projects listed in Tables IV.25-1 through IV.25-4 could result in cumulative conflicts to existing and planned land uses during construction and operations. Mitigation measures would be required to reduce impacts from the projects permitted under the DRECP during construction to reduce noise, air quality emissions, or other indirect effects. Mitigation Measure LU-1a (Minimize Inconsistencies with Local Agency Plans and Policies), would be required to reduce impacts during operation and would require the developer to coordinate with the local authorities to address the conflict. Similar mitigation is required for the No Action Alternative and for the existing and proposed renewable projects identified in Tables IV.25-1 and IV.25-4. For projects developed on public lands, such

as the Ivanpah, Genesis, Blythe, Palen, Desert Harvest, and Desert Sunlight, local authorities are active participants in the environmental review process. With implementation of mitigation for each project, the impact would be less than cumulatively significant. Conflicts to existing or planned land uses, related plans, and policies due to operations would potentially require land use plan amendments or other regulatory processes to reduce the impacts to less than cumulatively significant.

#### **IV.25.3.12 Agricultural Land and Production**

The geographic scope for cumulative impacts to agriculture would be the DRECP boundary. While agriculture is discussed below for the counties, the conversion of agricultural land to other uses would be cumulative for all of the counties combined.

##### ***Impact AG-1: Alternative would convert Important Farmland to nonagricultural use or conflict with Williamson Act contracts.***

Development permitted under the DRECP and Conservation Planning Areas if acquired from willing sellers, would convert several tens of thousands of acres of Important Farmland to renewable energy or conservation. Total acres converted would be as follows: approximately 25,000 for the No Action Alternative, 56,000 for the Preferred Alternative, 71,000 for Alternative 1, 48,000 for Alternative 2, 597,000 for Alternative 3, and 53,000 for Alternative 4. The alternatives would also affect between 2,000 (No Action, Preferred Alternative, Alternative 2) and 4,000 (Alternative 1) acres of Williamson Act lands within the DFAs. Projects listed in Tables IV.25-1 through IV.25-4 would also result in the conversion of agricultural land to nonagricultural use. Most notably, projects listed in Table IV.25-1 in the Imperial Borrego Valley would convert approximately 13,500 acres of Important Farmland and projects listed in Table IV.25-2 in the Imperial Borrego Valley would convert up to 7,000 acres of Important Farmland. The loss of 20,500 acres of Important Farmland would combine with the conversion due to projects permitted under the DRECP to result in a cumulatively significant impact due to the conversion of Important Farmland to nonagricultural use. Implementation of mitigation measures such as AG-1a (minimize impacts to agricultural resources), AG-1b (develop an Agriculture Resources Protection Plan), AG-1c (compensate for loss of Important Farmland), and AG-1d (ensure compatibility with Williamson Act Contracts or terminate the contracts) would reduce the cumulative effect.

##### ***Impact AG-2: Alternative would involve other changes in the existing environment, which due to their location or nature, would impair agricultural use of adjacent agricultural operations.***

Renewable energy and transmission development permitted under the DRECP would adversely affect adjacent agricultural operations. Potential impacts include (1) damage to

equipment, crops, and livestock from increased traffic on farm roads; (2) competition for water resources, including groundwater; (3) water and soil contamination; (4) suppression of plant growth by fugitive dust; (5) soil erosion; (6) spread of weeds; and (7) shading of crops. Cumulative renewable energy projects listed in Tables IV.25-1 and IV.25-2 would result in similar impacts in the Imperial Valley and could combine to result in a cumulative impact. Implementation of mitigation measures such as AG-1a (minimize impacts to agricultural resources) would reduce this cumulative effect.

### **CEQA Significance Determination**

**AG-1: Alternative would convert Important Farmland to nonagricultural use or conflict with Williamson Act contracts.** Under the DRECP alternatives, renewable energy and transmission development and the reserve design would convert up to 71,000 acres of Important Farmland to nonagricultural use. The DRECP alternatives would also affect up to 4,000 acres of Williamson Act lands within the DFAs. This would combine with up to 20,500 acres of Important Farmland impacted by projects listed in Tables IV.25-1 and IV.25-2 to result in a significant cumulative impact. Mitigation Measures AG-1a (minimize impacts to agricultural resources), AG-1b (develop an agricultural resources protection plan), AG-1c (compensate for loss of Important Farmland), and AG-1d (ensure compatibility with or terminate Williamson Act contracts) would reduce impacts in part through ensuring restoration of agricultural sites after project decommissioning and through requiring preservation of some off-site agricultural land. However, due to the potential conversion of acres of Important Farmland under all DRECP alternatives, the contribution of the DRECP to the cumulative impact would be cumulatively considerable.

**AG-2: Alternative would involve other changes in the existing environment, which due to their location or nature, would impair agricultural use of adjacent agricultural operations.** Renewable energy and transmission development permitted under the DRECP may impair agricultural use of adjacent agricultural land. Cumulative projects listed in Tables IV.25-1 through IV.25-4 would result in similar impacts and if adjacent to or near to projects permitted under the DRECP would result in cumulative impairment of adjacent agriculture operations. CMAs for the action alternatives and Solar Programmatic Environmental Impact Statement (Solar PEIS) Design Features for the No Action Alternative would minimize most of these impacts. In addition, Mitigation Measure AG-1a would require coordination with agricultural operations regarding construction schedules. Similar mitigation would be required for the renewable energy projects listed in Tables IV.25-1 through IV.25-4. With the implementation of this measure, the impact would be less than cumulatively significant.

### **IV.25.3.13 BLM Lands and Realty—Rights-of-Way and Land Tenure**

The geographic scope for cumulative impacts to BLM Lands and Realty—Rights-of-Way and Land Tenure would be the BLM-administered land within the entire DRECP and the entire CDCA. This is the largest area where the alternatives would result in changes to BLM lands and realty. Impacts to BLM lands and realty would only occur on BLM-administered land.

#### ***Impact LR-1: BLM land tenure adjustments could conflict with applicable BLM policies and regulations.***

Direct impacts to BLM lands and realty would occur if utility-scale renewable energy projects permitted under the DRECP require land tenure adjustments that conflict with existing policies or regulations. Land tenure adjustments could include the acquisition, lease, exchange, or disposal of BLM lands. None of the projects listed in Table IV.25-1 would conflict with applicable BLM policies and regulations so they would not combine with the projects permitted under the DRECP. This is because the projects listed in Table IV.25-1 have already been approved and any conflicts with BLM policies and regulations were considered and resolved during the individual NEPA analysis for these projects. Projects listed in Table IV.25-2, IV.25-3, and IV.25-4 that are on or would cross BLM lands could conflict with BLM policies and regulations in that they could require a land use plan amendment. Many of the renewable projects listed in Table IV.25-2 and IV.25-3 are proposed in locations considered for DFAs so they would not combine with the DRECP DFAs and would avoid or minimize conflicts with existing BLM-administered lands. Some projects, such as the Stateline Solar Farm, are not located in DFAs and could combine to conflict with BLM policies and regulations. Each project would be considered on an individual basis and require a plan amendment to resolve any conflicts with BLM policies and regulations as happened for the Stateline Solar Farm. As such, there would be no cumulative effect.

#### ***Impact LR-2: Development on BLM land would conflict with existing land-use authorizations.***

Development of utility-scale renewable energy facilities permitted under the DRECP may interfere with or require modifications to existing BLM utility ROWs or corridors. Each project would be subject to the rights of existing ROW holders, and BLM may not force changes in its existing ROW authorizations. The areas used by the projects listed in Tables IV.25-2, IV.25-3, and IV.25-4 would also exclude other incompatible land uses. For some projects, such as the Palen Solar Power Project and the Stateline Solar Farm, this would require modification of existing ROW because an existing transmission line crosses the proposed sites. Furthermore, some projects, such as the Stateline Solar Farm, require the BLM to consider the impact on other uses, as the project would be located within an existing utility corridor. For the projects listed in Tables IV.25-2 through IV.25-4, the BLM would

consider the impact on a case-by-case basis. While the large number of projects listed in Tables IV.25-2, IV.25-3, and IV.25-4 could combine with renewable energy permitted under the DRECP to conflict with existing ROW authorizations, mitigation measures such as LR-2a (require notification to ROW holders) and LR-2c (require legal access to public lands surrounding renewable facilities) would reduce the cumulative effects.

***Impact LR-3: Development within designated exclusion areas would conflict with BLM regulations and policies.***

Potential ROW exclusion areas permitted under the DRECP would include BLM-designated lands such as ACECs, Desert Wildlife Management Areas, NLCS lands, wilderness and wilderness study areas, grazing allotments, mineral lease areas, and recreation lands. These designations would establish conservation areas on BLM lands so they would protect exclusion areas and be managed as described under the LUPA in the DRECP. Where projects listed in Tables IV.25-1 through IV.25-3 would be located within exclusion areas, they would be analyzed in their NEPA specific documents on a case-by-case basis, such as the Stateline Solar Farm. Future development would be prohibited from the exclusion areas except as managed under the DRECP so development would not result in a cumulative effect on exclusion areas.

***Impact LR-4: Conservation actions could prohibit existing authorized land uses.***

There would be conservation actions under the No Action Alternative through the application of mitigation required for renewable energy projects (such as required habitat offsets) which would be considered on a case-by-case basis. As such, the No Action Alternative would contribute to a cumulative effect as in the other Alternatives listed below. The reserve design permitted under the DRECP would increase the acreage of existing conservation by over 6.1 million acres for the Preferred Alternative and Alternative 1, over 6.3 million acres for Alternative 2 and Alternative 3, and over 5.6 million acres for Alternative 4. This reserve could overlap with BLM ROWs. Major BLM ROWs include roads, highways, telephone lines, leases for recreation and other public purposes, oil and gas facilities, water and gas pipelines, water facilities, communication sites, ditches, railroads, and fiber optic lines. Proposed CMAs and the DRECP CDCA Plan amendments provide for access and upkeep to existing and valid ROW. None of the projects listed in Tables IV.25-1 through IV.25-4 would be conservation actions on BLM-administered lands so they would not result in a cumulative effect. Other BLM management actions currently under way, or that may occur in the future, would consider the DRECP and all existing BLM management actions in their impact analysis and would ensure the management actions are consistent with BLM policies and multiple-use mandates.

## **CEQA Significance Determination**

CEQA does not require separate analysis and significance determinations relating to BLM lands and realty.

### **IV.25.3.14 BLM Land Designations, Classifications, Allocations, and Lands with Wilderness Characteristics**

The geographic scope for cumulative impacts to BLM land designations, classifications, and lands with wilderness characteristics (LWCs) would be the BLM-administered land within the entire DRECP and the entire CDCA. This is the largest area where the alternatives would result in changes to BLM lands and realty. Impacts to BLM land designations, classifications, and lands with wilderness characteristics would only occur on BLM-administered land.

#### ***Impact LD-1: Development and operation of renewable energy and transmission facilities would reduce the value of designated conservation areas.***

Renewable energy facilities could result in potential direct impacts to NSHT Management Corridors and inventoried lands found to have wilderness characteristics and indirect impacts to wilderness study areas (WSAs), National Wild and Scenic Rivers, NLCS lands, ACECs, wildlife allocations, Special Recreation Management Areas (SRMAs), and open OHV areas. These impacts would be due to an increase in dust and noise during construction and to visual impacts during operations. Projects listed in Tables IV.25-1 through IV.25-4 could similarly result in potential direct and indirect impacts to other BLM designations. Many of the projects listed in Table IV.25-1 through IV.25-4 would be located in proposed DFAs, in particular in the DFAs in Eastern Riverside County, Imperial Valley, and the Tehachapi Mountain Range so the impacts to BLM designations would be in locations already considered as part of the DRECP. However, some projects, such as Bechtel Soda Mountain Solar Project located near a WSA or Stateline Solar Farm located near a wilderness area, are not located in DFAs and could combine with the projects permitted under the DRECP. Impacts to BLM sensitive land designations would result in a cumulative effect. The BLM is in the process of or would consider the impacts of these projects on a case-by-case basis and require mitigation or a project-specific land use plan amendment to reduce the cumulative effect.

#### ***Impact LD-2: Development and operation of renewable energy and transmission facilities would conflict with the existing management goals and objectives of designated conservation areas.***

The action alternatives would not directly conflict with existing management goals and objectives of designated conservation areas. Development on DFA lands adjacent to or near designated conservation areas would indirectly affect the existing management goals and

objectives, in particular the protection of scenic value. Development on inventoried lands found to have wilderness characteristics would degrade those characteristics; however, these lands would be reprioritized for renewable energy development and CMAs would be applied to reduce potential impacts. The projects listed in Tables IV.25-1 through IV.25-4 could result in direct impacts to designated conservation areas, including ACECs, where they overlap with these resources. Direct impacts would be minimal because the BLM works closely with developers to identify the most appropriate locations for renewable energy. These projects could indirectly impact BLM designations throughout the CDCA and Plan Area. The BLM is in the process of or would consider the impacts of these projects on a case-by-case basis and require mitigation or a project-specific land use plan amendment to reduce the cumulative effect.

The No Action Alternative could directly impact areas managed for conservation, such as ACECs where the management of the conservation area allows for the development of some types of renewable energy. This future development could combine with impacts from the projects listed in Tables IV.25-1 through IV.25.4; however, most of the projects identified in these tables would not be located on areas managed for conservation because BLM works with developers to direct them away from such lands. In some instances, existing or proposed renewable projects listed in Tables IV.25-1 and IV.25-4 would impact conservation areas, such as the Desert Harvest Solar Farm and the Desert Sunlight Solar Farm, both of which impact a Northern and Eastern Colorado Desert Coordinated Management Plan-designated wildlife habitat management area. However, such impacts are rare and the developers were required to mitigate for any impacts, reducing the cumulative direct effects.

Indirect effects under the No Action Alternative would be the same as for the action alternatives.

### **CEQA Significance Determination**

CEQA does not require separate analysis and significance determinations relating to BLM land designations, classifications, and lands with wilderness characteristics.

### **IV.25.3.15 Mineral Resources**

The geographic scope for cumulative analysis to minerals is the entire Plan Area and the entire CDCA and transmission line corridors.

***Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.***

The renewable energy and reserve design and LUPA conservation areas permitted under the DRECP would affect mineral resources by restricting access to or development of areas of known mineral resources. The renewable energy developed by all the alternatives would

only minimally impact known mineral resources, including geothermal, high potential mineral areas, high priority mineral and energy locations, rare earth element areas, locatable minerals, leasable mineral areas, and mineral material areas. The reserve design and LUPA would potentially impact larger amounts of known mineral areas—between 66% and 72% of high potential mineral areas for all action alternatives.

Approximately 52% of high potential mineral areas are located on existing conservation lands (i.e., the No Action Alternative). All action alternatives would potentially impact between 12% and 33% of the high priority potential mineral areas. No high priority mineral and energy locations are located on existing conservation lands (i.e., the No Action Alternative). All action alternatives would potentially impact between 76% and 89% of the rare earth element areas. Approximately 57% of rare earth element areas are located within existing conservation lands (i.e., the No Action Alternative). The action alternatives reserve design would impact between 48% and 68% for locatable mineral areas. Approximately 30% of rare earth element areas are located within existing conservation lands (i.e., the No Action Alternative).

For the action alternatives, new conservation areas on CPA acquired lands would create access restrictions to currently undeveloped mineral resource areas and prevent future exploration. For all alternatives, within conservation lands on BLM-administered lands, exploration and access would continue following the area-specific management plan, including disturbance caps. Mitigation measures typically required for mining would reduce some disturbance impacts of mining, allowing for more exploration and access. In addition, unpatented mining claims are subject to valid existing rights.

Some of the projects listed in Tables IV.25-1 through IV.25-4 would also impact mineral resources. For example, the 29 Palms Training Land/Airspace Acquisition Project, Ocotillo Express, and Bechtel Soda Mountain Solar could impact high potential mineral areas. The Proposed 29 Palms Training Land/Airspace Acquisition Project would purchase patented and unpatented mines in the western expansion area and two iron ore mines. The project EIS found this impact to be less than significant because of the nearby areas designated as either high or moderate potential for occurrence in the surrounding areas. However, when combined with the projects permitted under the DRECP this would result in a cumulative impact. With implementation of Alternative 2 and Alternative 3, the nearby iron ore within the NLCS would not be available for mining, resulting in a cumulative impact. The Ivanpah SEGS and Stateline Solar Farm could impact access to high potential mineral areas.

Some of the solar projects listed in Tables IV.25-1 through IV.25-3 in Imperial County would potentially combine with the renewable energy DFAs permitted under the DRECP to impact the known geothermal resource areas (KGRAs). The Wistaria Ranch Solar, Calexico

Solar Farm, and Mount Signal Solar—all located in or near the Heber KGRA and the Midway Solar I and II—would potentially impact the Salton Sea KGRA.

To reduce the cumulative effects to the extent practicable, measures are included for the action alternatives. For example, CMAs would designate mineral land areas on DRECP maps recognizing these lands as probable future development areas. In addition, existing authorized mineral and energy operations would be allowed to continue or expand. Mitigation Measure (MR-1a) would require developer coordination to ensure that access to mineral resources. Similar actions would likely be required for projects listed in Table IV.25-1 through IV.25-4, to reduce the cumulative effects to the extent feasible.

### **CEQA Significance Determination**

**MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.** The No Action Alternative would not result in a cumulatively significant impact because, without the new designation of conservation lands, the loss or restricted access to minerals due to renewable energy development would be minimal.

For all action alternatives, the DRECP may result in limitations to or restrictions of access to existing and future mineral resource areas due to renewable energy development and areas designated for conservation or protection of resources. These limitations would combine with the projects listed in Tables IV.25-1 through IV.25-4 to result in a cumulatively significant impact due to potential restricted access or loss of some types of minerals. Implementation of typical mitigation measures would reduce the contribution of the projects permitted under the DRECP to less than cumulatively considerable for the No Action Alternative. CMAs and Mitigation Measure (MR-1a) would reduce the contribution of the action alternatives on access to minerals because they would allow mining on some of the NLCS areas and ensure access to the mineral lease areas. However, because the CMAs and Mitigation Measures would not ensure all access to mineral areas and the potential loss would be great, the contribution would remain cumulatively considerable.

#### **IV.25.3.16 Livestock Grazing**

The cumulative geographic scope includes the grazing allotments within the DRECP and CDCA as well as the Farmland Mapping and Monitoring Program (FMMP)-designated non-BLM grazing lands. This is because livestock grazing would not occur outside of these designated areas.

***Impact LG-1: Alternative would result in loss of livestock grazing acres.***

Renewable energy projects permitted under the DRECP could result in the loss of between 11,400 acres (Alternative 1) and 20,800 (Alternative 2) of BLM Grazing Allotments and between 10,144 acres (No Action Alternative) and 29,600 acres (Alternative 4) of non-BLM grazing lands. Grazing leases would likely need to be canceled, modified, or reduced in areas where solar and geothermal projects are developed. If full allotments are not made unavailable and grazing continues in undeveloped portions of allotments, there would still be a loss of forage in areas cleared of vegetation. Renewable energy development may result in adverse socioeconomic impacts to ranchers and grazing communities from the modification or loss of grazing privileges, particularly where grazing has been a longstanding and important tradition.

Approximately 1.1 million acres of BLM Grazing Allotments would be included in the reserve design envelope. NLCS and ACEC management on BLM lands would allow for livestock grazing in many instances so it would not impact grazing. The BLM would also designate SRMAs that overlap with grazing allotments. Where SRMA management actions restrict or eliminate grazing, they would result in adverse impacts.

Between 233,000 and 341,000 acres of grazing land on non-BLM lands would be included in the reserve design (Conservation Planning Areas), if acquired from willing sellers. The management of the CPA lands could allow for some grazing if compatible with the conservation plan.

Projects listed in Tables IV.25-1 through IV.25-4 could also result in the loss of grazing, including the Ivanpah SEGS and Stateline Solar Project that are located within the Clark Mountain Allotment, Southern Owens Valley Solar Ranch and Eastern Kern County Land Acquisition within the Taylor Grazing Act – California District 1, among others. Loss of additional grazing would combine with the loss of grazing land resulting from the projects permitted under the DRECP to result in a cumulatively significant impact. Implementation of measures, such as the CMAs relevant to livestock grazing and LG-1a that would minimize impacts on livestock grazing, would reduce these effects to the extent practicable.

***Impact LG-2: Alternative would involve other changes in the existing environment, which due to their location or nature, would impair use of adjacent grazing lands.***

Renewable energy and transmission development permitted under the DRECP would have a variety of impacts on adjacent grazing lands. Fugitive dust from construction would reduce forage palatability. Construction activities may spread noxious weeds and increase wildland fires. Livestock may also be adversely affected by construction noise and may concentrate in areas farther from construction activities, resulting in adverse impacts to vegetation

communities and forage (over-grazing). Increased traffic would increase the potential for livestock injury or death from vehicle collisions, and increased access to grazing areas could cause potential problems for grazing management through interference with pasture gates. Construction activities could also lead to soil and water contamination that would harm forage and livestock. These projects would be primarily limited to the construction period and would be greatly reduced during the operational periods.

Projects listed in Table IV.25-1 through IV.25-4 would similarly impact grazing activities. In some instances, such as with Ivanpah SEGS and Stateline Solar Project, the potential to cumulatively impact grazing would occur only under the No Action Alternative because there would be no development permitted under the DRECP in the Clark Mountain Allotment under the action alternatives. Because the impact would occur primarily during the construction period and the majority of the projects listed in Tables VI.25-1 through IV.25-4 would be operational by the time the projects permitted under the DRECP were under construction, the impact would not combine to be cumulatively adverse. Implementation of measures such as the CMAs relevant to livestock grazing and LG-1a would further minimize impacts on livestock grazing.

### **CEQA Significance Determination**

**LG-1: Alternative would result in loss of livestock grazing acres.** Construction of renewable energy projects and transmission and designation of Reserve Design Lands under the DRECP would convert some grazing land to nonagricultural use. Renewable energy and transmission development would affect up to 20,800 acres of grazing allotments on BLM land and up to 29,600 acres of private grazing lands. The Reserve Design Lands would protect some grazing areas and restrict grazing in other areas. Projects listed in Tables IV.25-1 through IV.25-4 would also convert some grazing land to nonagricultural use. Because of the very large amount of grazing land in the Plan Area, this impact would be adverse, but less than cumulatively significant.

**LG-2: Alternative would involve other changes in the existing environment, which due to their location or nature, would impair use of adjacent grazing lands.** Renewable energy and transmission development permitted under the DRECP would have a variety of impacts on adjacent grazing lands. The impacts would occur primarily during the construction period. CMAs for the action alternative and Solar PEIS Design Features for the No Action Alternative would minimize most of these impacts. Projects listed in Tables IV.25-1 through IV.25-4 would also impact adjacent grazing lands but because the construction period of the cumulative projects would occur prior to the construction of the projects permitted under the DRECP, they would not combine to result in a cumulatively significant impact. Implementation of the CMAs and Mitigation Measure LG-1a would further reduce this impact.

### **IV.25.3.17 Wild Horses and Burros**

The geographic scope for cumulative impacts to wild horses and burros would be the Herd Management Areas (HMAs) and the herd areas (see Volume III, Figure III.17-1). These areas are primarily along the California-Nevada border near the Chicago Valley in Inyo County, in the Panamint Valley in Inyo County, north of Ridgecrest, near the Ivanpah Valley, and in the Mojave National Preserve in San Bernardino County, near the intersection of Highway 95 and SR-62, across the Colorado River from Lake Havasu, and near the Chocolate Mountains.

No HMAs or herd areas are along the transmission routes outside the Plan Area so there are no impacts to these resources and no potential for cumulative effects.

#### ***Impact WH-1: Plan components would result in loss of forage for wild horses and burros.***

For the No Action Alternative and Alternatives 1, 2, 3, and 4 there is potential for renewable energy and transmission to result in loss of forage for wild horses and burros if projects were sited within the HMAs. Alternatives 1, 3, and 4 have fewer than 200 acres of HMAs that overlap with DFAs. The Preferred Alternative DFAs do not overlap with the HMAs so no direct loss of forage in HMAs would occur.

For all alternatives, there is potential for renewable energy and transmission permitted under the DRECP to result in the loss of forage for wild horses and burros if projects were sited on appropriate foraging habitat herd areas. Only a few of the cumulative projects, including the Ivanpah and Stateline Solar Farm, are or would be sited within HMAs or herd areas. Similarly, little of the development anticipated in the counties within the DRECP is forecasted in these areas (see Section IV.25.2.2). Where cumulative projects are proposed in HMAs or herd areas, they would contribute to the loss of forage for wild horses and burros. Mitigation measures such as WH-1a (ensure access to water sources), WH-1b (coordinate with the BLM and other stakeholders during the permitting process), and WH-1c (delineate habitat to protect wild horses and burros) would reduce the cumulative impacts to the extent practicable.

#### ***Impact WH-2: Plan components would result in displacement of wild horses and burros.***

For the No Action Alternative and Alternatives 1, 2, 3, and 4 there is potential for renewable energy and transmission to result in displace of wild horses and burros if projects were sited within the HMAs. Alternatives 1, 3, and 4 have fewer than 200 acres of HMAs that overlap with DFAs. The Preferred Alternative DFAs do not overlap with the HMAs so it would not displace wild horses and burros in HMAs.

Under all alternatives, there is potential for renewable energy and transmission permitted under the DRECP to be sited within herd areas and displacing the wild horses and burros

within those areas. Only a few of the cumulative projects, including the Ivanpah and Stateline Solar Farm, are or would be sited within HMAs or herd areas and could combine to result in a cumulative displacement. Little of the development anticipated in the counties within the DRECP is forecasted in these areas (see Section IV.25.2.2). Mitigation measures such as WH-1b (coordinate with the BLM and other stakeholders during the permitting process) and WH-1c (delineate habitat to protect wild horses and burros) would reduce the cumulative impacts to the extent practicable.

***Impact WH-3: Plan components would reduce access to wild horse and burro habitat or require relocation.***

Construction of renewable energy projects permitted under the DRECP may fragment wild horse and burro rangeland habitat, or block access of important habitat features, within HMAs and reduce the long-term sustainability and quality of the habitat and/or forage. Only a few of the cumulative projects, including the Ivanpah and Stateline Solar Farm, are or would be sited within HMAs or herd areas and could combine to result in a cumulative fragmentation. Little of the development anticipated in the counties within the DRECP is forecasted in these areas (see Section IV.25.2.2). Mitigation measures such as WH-1a (ensure access to water sources), WH-1b (coordinate with the BLM and other stakeholders during the permitting process), and WH-1c (delineate habitat to protect wild horses and burros) would reduce the cumulative impacts to the extent practicable.

***Impact WH-4: Plan components would result in injury, harassment, or increased mortality due to construction or operations and maintenance activities.***

Construction and decommissioning activities would result in fugitive dust created by construction vehicles that could reduce road visibility and increase the probability that wild horses or burros could be either wounded or killed by vehicle traffic during these activities (generally short-term impact). Operations and maintenance activities may result in long-term disturbance, injury, or harassment of wild horses and burros by vehicles and activity noise along roadways and other rights-of-way used to access facilities. Only a few of the cumulative projects, including the Ivanpah and Stateline Solar Farm, are or would be sited within HMAs or herd areas and could combine to result in a cumulative injury, harassment, or increased mortality under the No Action Alternative. Little of the development anticipated in the counties within the DRECP is forecasted in these areas (see Section IV.25.2.2). Mitigation measures such as WH-1b (coordinate with the BLM and other stakeholders during the permitting process) and WH-1c (delineate habitat to protect wild horses and burros) would reduce the cumulative impacts to the extent practicable.

## CEQA Significance Determination

CEQA does not require separate analysis and significance determinations relating to wild horses and burros.

### IV.25.3.18 Outdoor Recreation

The geographic scope for cumulative impacts to outdoor recreation is the entire DRECP, the CDCA, and the Outside the Plan Area transmission corridors.

#### ***Impact OR-1: Plan components could enhance or degrade recreational use.***

Cumulative impacts to recreation would be exclusion of recreation use from areas currently used for recreation and indirect effects on recreation from visual or other indirect effects.

**Exclusion of Recreation Use.** The development of renewable energy facilities permitted through the DRECP would exclude recreational use from those areas, displace recreationists, and diminish recreational opportunities. Development of solar and geothermal facilities would exclude recreational use from the entire footprint as they would generally be fenced and inaccessible to recreationists. Some types of recreation, such as hiking or off highway vehicle (OHV) use, may be compatible with wind development due to the large open areas between wind turbines and because fencing may be around the wind turbines and infrastructure rather than the entire project area. Impacts of the projects listed in Tables IV.25-1 through IV.25-4 would be similar to those described for the DRECP renewable energy facilities. For example, the Ocotillo Express Project is located on BLM lands in an existing Special Recreation Management Area with many open OHV roads. While all the roads within the project boundaries were closed during construction, open OHV roads that were not directly impacted by the wind turbines were reopened after the construction had finished. Other projects such as the Proposed 29 Palms Training Land/Airspace Acquisition Project would contribute to the cumulative direct loss of recreation areas, as the proposed expansion overlaps with the Johnson Valley OHV Area.

Overall, taken together, the loss of recreational opportunity from the renewable energy projects permitted by the DRECP, the projects listed in Tables IV.25-1 through IV.25-4, the benefit from the SRMA designations, and the recreation plans and land acquisition in Kern County, the cumulative impacts of the DRECP to recreation would be minimal.

**Indirect Cumulative Effects on Recreation.** Renewable energy or transmission infrastructure permitted under the DRECP would result in noise, dust, and traffic that would disturb recreationists such as hikers, campers, hunters, or birders. Noise, dust, and traffic would be greatest during construction and decommissioning of the projects. Construction and operational activities would also affect the visual experience of recreationists due to

the industrial nature of large construction staging areas and the renewable energy facilities. Renewable energy facilities would substantially impact recreational areas that are destinations for solitary or backcountry recreation. Many of the projects listed in Tables IV.25-1 through IV.25-4 would have similar indirect effects to recreation, in particular to the visual experience of recreationists. While this is true for many of the recreation projects listed in Tables IV.25-1 through IV.25-3, it is also true of larger infrastructure projects such as the Briggs Mine Expansion and the Eagle Mountain Pumped Storage project located immediately adjacent to National Parks, and such projects and would be within the viewscape of recreationists in the parks. Where the projects listed in Tables IV.25-1 through IV.2-4 require night lighting for safety and security purposes, this could cumulatively impact night skies and stargazing. For example, the Devers-Palo Verde No.2 project requires night lighting along portions of the route. This light could combine with the night lighting likely required at the Palen SEGS project or other renewable projects permitted under the DRECP near Desert Center to cumulatively effect stargazing from Joshua Tree. The cumulative effect would be considerable.

***Impact OR-2: Plan components could enhance or degrade access to lands managed for recreation.***

The development of renewable energy under the DRECP could require use of between 6,000 acres (Alternative 1) to almost 12,000 acres (No Action Alternative) of lands managed for recreation. If these lands were fenced, such as would be the case for solar projects (both photovoltaic and thermal), the fences would decrease access to such lands and could result in the closure of roads used for off-highway recreation. In addition, increased traffic during construction could degrade access roads or result in temporary closures. Projects listed in Tables IV.25-1 through IV.25-3 would also require fencing and could contribute to the cumulative decreased access to recreational areas. Multiple projects including the Desert Sunlight Project require the closure of open roads, which contributes to the cumulative loss of recreation access.

***Impact OR-3: Plan components would enhance management of focus areas for recreation.***

The DRECP LUPA would designate over 3.6 million acres managed for recreation for the Preferred Alternative, over 2.7 million acres for Alternative 1 and Alternative 3, and over 2.6 million acres for Alternative 2 and Alternative 4. This would be a direct benefit to recreation in the DRECP and CDCA. Projects listed in Table IV.25-4 including the Ocotillo Wells State Vehicular Recreation Area General Plan, Rasor OHV Recreation Area Planning, and Eastern Kern County Land Acquisition would plan for actions needed to develop and sustain recreation in these areas, including OHV recreation opportunities. These projects would result in a substantial cumulative beneficial effect to recreation. The No Action Alter-

native would not designate any new areas managed for recreational use so it would have no impact on areas managed for recreation. The No Action Alternative would retain over 1.9 million acres of land currently managed for recreation.

### **CEQA Significance Determination**

**OR-1: Plan components could enhance or degrade recreational use.** Renewable energy facility development and associated transmission infrastructure permitted under the DRECP would combine with projects listed in Tables IV.25-1 through IV.25-4 to result in long-term exclusion of dispersed recreation of thousands of acres, a cumulative loss of recreational use. Given the millions of acres available for recreation in the Plan Area, this impact would be less than cumulatively significant. The DRECP's contribution would be further reduced because CMAs would reduce impacts to recreation.

Development of renewable energy facilities permitted under the DRECP, in combination with the renewable energy and other large infrastructure projects listed in Tables IV.25-1 through IV.25-4 would result in indirect effects on federal, state, or local recreational facilities or programs. Indirect effects include visual impacts such as increased night lighting, increased noise, and impacts to air quality. Due to the number of acres of potential visual impacts to the scenic value of sensitive recreational areas (i.e., national and state parks and wilderness areas) this cumulative impact would be significant and the contribution of the projects permitted under the DRECP would remain cumulatively considerable.

**OR-2: Plan components could enhance or degrade access to lands managed for recreation.** Due to the large scale of construction required for renewable energy projects permitted under the DRECP, access to recreational facilities could be disrupted by additional traffic and road closures and by the large fenced areas for solar and geothermal energy facilities. Projects listed in Tables IV.25-1 through IV.2-4 would also result in loss of access and additional traffic and road closures. Because of other enhanced recreation operations, recreation facilities, or access to recreation and because CMAs would require access to be retained, the impact would be less than cumulatively significant.

**OR-3: Plan components would enhance management of focus areas for recreation.** The DRECP LUPA would designate over 3.6 million acres managed for recreation for the Preferred Alternative, over 2.7 million acres for Alternative 1 and Alternative 3, and over 2.6 million acres for Alternative 2 and Alternative 4. Projects listed in Table IV.25-4 including the Ocotillo Wells State Vehicular Recreation Area General Plan, Razor OHV Recreation Area Planning, and Eastern Kern County Land Acquisition would also benefit recreation because they would plan for actions needed to develop and sustain recreation in these areas including OHV recreation opportunities. These projects would result in a cumulative beneficial impact on recreation.

### **IV.25.3.19 Transportation and Public Access**

***Impact TR-1: Plan components would modify local circulation patterns or degrade the performance of the local road network.***

During construction of renewable projects and transmission permitted under the DRECP, the movement of other equipment and materials to the site during construction would cause a small decrease in the level of service of local roadways. Transportation activities during renewable energy production would involve commuting workers, material shipments to and from the facility, and on-site work and travel. The impact on the local transportation network from transportation activity during renewable energy production and operation would be minimal.

The projects listed in Tables IV.25-1 through IV.25-4 as well as the development projected in Section IV.25.2.2 would also result in an increase in transportation and a corresponding decrease in the level of service of local roadways. Projects listed in Tables IV.25-1 through IV.25-3, the renewable energy projects, would primarily result in impacts to transportation during construction. The construction period of the majority of the projects listed in Tables IV.25-1 through IV.25-4 would not overlap with the construction of projects permitted under DRECP so these projects would not result in substantial cumulative impacts to transportation. Some projects listed in Table IV.25-4, in particular the mining projects, would require movement of trucks during operations and could overlap with the construction of projects permitted under the DRECP; however, these would be a much smaller subset of the cumulative projects. Development projected in the counties within and outside the DRECP would also increase transportation and combine with the project permitted under the DRECP to result in cumulative effects on transportation. This is especially true in areas where DFAs are in closer proximity to urban areas most likely to see increased growth such as near Lancaster and Victorville.

***Impact TR-2: Plan components would alter the availability or accessibility of BLM routes of travel.***

Development of renewable energy projects and transmission permitted under the DRECP would disrupt the accessibility of lands along local roads or preclude public access to lands surrounding the renewable energy project sites. Closure of large sites would decrease the availability of BLM routes of travel and impede travel to or from off-site locations. Typical mitigation is available to emphasize use and maintenance of existing BLM roads and to provide alternate replacement routes to ensure continued access to previously accessible public lands.

Renewable energy projects listed in Tables IV.25-1 through IV.25-3 could also disrupt the accessibility of lands along local roads and preclude access to lands surrounding the renewable energy project sites. This would be primarily true for solar and geothermal projects that are fenced, such as the Desert Sunlight Solar Farm that required the closure of some BLM open routes. Some wind projects, such as the Ocotillo Express Project, retained open roads through the project site after construction was finished. Most projects listed in Table IV.25-4 and the residential and commercial development projected in Section IV.25.2.2 would not alter the availability or access of BLM routes of travel. The exception is the Proposed 29 Palms Training Land/Airspace Acquisition Project that would alter BLM routes of travel and could combine with the loss of route of travel caused by the projects permitted under the DRECP to result in a cumulative effect. CMAs and mitigation measures such as TR-2a (adhere to road construction standards), TR-2b (provide access through large sites), and TR-2c (restore unneeded roads) would reduce the cumulative effects to the extent practicable.

***Impact TR-3: Plan components would result in substantial traffic volumes on highway segments designated as part of a Congestion Management Plan (CMP).***

Congestion management programs include the principal roads, highways, and interstate highways of the Plan Area. The renewable energy projects and transmission permitted under the DRECP would affect the transportation infrastructure of the Plan Area and along the transmission corridors, which is generally outside of urban environments and the focus of congestion management programs. Renewable energy facility development would generate traffic to and from project sites, but the traffic levels would not be substantial when compared to the road network's capacity. Accordingly, development under the DRECP would not substantially affect any principal roads or highway segments designated as part of a Congestion Management Plan.

Cumulative projects listed in Tables IV.25-1 through IV.25-4 would similarly affect the transportation infrastructure within the Plan Area and along the transmission corridors. The renewable energy development listed in Tables IV.25-1 through IV.25-3 would also generate traffic to and from project sites, but the traffic levels would not be substantial when compared to the road network's capacity. The projects would generate traffic primarily during construction. Development listed in Tables IV.25-1 through IV.25-3 would not substantially affect any principal roads or highway segments designated as part of a Congestion Management Plan. Only a few projects listed in Table IV.25-4 and the development forecasted in Section VI.25.2.2 could affect principal roads or highway segments designated as part of a Congestion Management Plan, in particular large-scale residential and commercial development. Such development would require a traffic study and consideration of a Congestion Management Plan and would be required to implement mitigation such as TR-1a (implementing a traffic plan), TR-1b (coordinating road improvements with

local authorities), TR-1c (implementing traffic control measures), and TR-1d (ensuring proper signage and travel management) reducing the cumulative effects.

Because development under the DRECP would not substantially affect any principal roads or highway segments designated as part of a Congestion Management Plan it would not contribute to a cumulative effect.

***Impact TR-4: Plan components would increase hazards and the risk for a traffic incident or inhibit emergency response.***

Development of renewable energy projects and transmission permitted under the DRECP would require use of slow-moving heavy-duty trucks and would obstruct traffic in a manner that could inhibit emergency response temporarily during construction phases. Heavy construction traffic using emergency routes could adversely affect emergency service response times. New road hazards could also be introduced as a result of creating new site entry and egress or by inadvertently causing damage to roadway surfaces. The effects of road improvements to ensure site access or potential damage to roadways would be subject to the supervision of local jurisdictions to ensure that a site does not increase the potential for unsafe movement of vehicles. Implementing traffic controls and measures to avoid or repair wear and tear from construction traffic would avoid the adverse effects of this impact.

Cumulative projects listed in Tables IV.25-1 through IV.25-3 would also require use of slow-moving heavy-duty trucks and would obstruct traffic in a manner that could inhibit emergency response temporarily during construction phases. Some projects listed in Table IV.25-4 would require use of heavy-duty trucks during operations, such as the expanded mining projects. However, the number of trucks used would be much fewer and would be dispersed throughout the entire Plan Area and transmission corridor routes. In addition, projects that require large use of trucks during operations typically are required to adhere to a traffic management plan or designated routes.

The construction phases of the projects listed in Tables IV.25-1 through IV.25-3 are not expected to overlap with the construction phases of the projects permitted under the DRECP. For this reason, DREPC projects would not contribute to a cumulative impact on increased hazards and the risk for a traffic incident or inhibit emergency response.

**CEQA Significance Determination**

**TR-1: Plan components would modify local circulation patterns or degrade the performance of the local road network.** The development of renewable projects and transmission permitted under the DRECP and the majority of the cumulative projects listed in Tables IV.25-1 through IV.25-4 would primarily impact transportation during the

construction period. The construction period of the majority of the projects listed in Tables IV.25-1 through IV.25-4 would not overlap with the construction of projects permitted under DRECP so they would not result in significant cumulative impacts to transportation.

**TR-2: Plan components would alter the availability or accessibility of BLM routes of travel.** The projects permitted under the DRECP would combine with the cumulative projects listed in Tables IV.25-1 through IV.25-4. In particular, the solar and geothermal projects listed in Tables IV.25-1 through IV.25-3 on BLM lands, and the Proposed 29 Palms Training Land/Airspace Acquisition Project that would alter BLM routes of travel and could combine with the loss of routes of travel caused by the projects permitted under the DRECP. However, implementation of the CMAs and Mitigation Measures TR-2a, TR-2b, and TR-2c would reduce the contribution of the DRECP. Similar mitigation including providing alternate access would be required for the cumulative projects listed in Tables IV.25-1 through IV.25-3. This impact would be less than cumulatively significant.

**TR-3: Plan components would result in substantial traffic volumes on highway segments designated as part of a Congestion Management Plan (CMP).** Because development under the DRECP would not substantially affect any principal roads or highway segments designated as part of a Congestion Management Plan it would not contribute to a cumulative significant impact.

**TR-4: Plan components would increase hazards and the risk for a traffic incident or inhibit emergency response.** Development of renewable energy projects and transmission permitted under the DRECP and the cumulative projects listed in Tables IV.25-1 through IV.25-4 would require use of slow-moving heavy-duty trucks and could cumulatively obstruct traffic in a manner that could inhibit emergency response temporarily during construction phases. The construction phases of the projects listed in Tables IV.25-1 through IV.25-3 are not expected to overlap with the construction phases of the projects permitted under the DRECP. For this reason, DRECP projects would not contribute to a cumulative impact on increased hazards and the risk for a traffic incident or inhibit emergency response.

#### **IV.25.3.20 Visual Resources**

The geographic scope of the cumulative visual effects would be the entire DRECP area and CDCA area as well as the Outside the Plan Area transmission line corridors. The LUPA management actions within the CDCA but outside the DRECP would not themselves result in visual impacts but would manage some areas to allow for modifications to the viewscape.

***Impact VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.***

During construction and decommissioning of renewable projects permitted under the DRECP, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers. Examples include dust and exhaust emissions, removal of vegetation during site clearing, contouring and grading, presence of vehicles and equipment, mobilization and demobilization activities, material delivery and staging, assembly of components, site lighting, and construction and later removal of structures. While many of the projects listed in Tables IV.25-1 through IV.25-4 would have similar construction activities resulting in impacts to scenic quality, few of them could combine with the construction of projects permitted under the DRECP to result in a cumulative short-term diminished scenic quality. This is because the majority of the projects listed in Tables IV.25-1 through IV.25-4 would have finished construction prior to the development of renewable energy permitted under the DRECP. Some projects, such as the California High-Speed Rail have anticipated lengthy construction time frames so could overlap with construction of renewable energy in the West Mojave and Eastern Slopes ecoregion subarea. In addition, renewable energy projects permitted in DFAs near areas that have anticipated growth projections (e.g., townsites in unincorporated Imperial County or the Tehachapi Mountain Communities in Kern County) could result in cumulative impacts due to construction of residential or commercial development required for the projected population growth. CMAs and mitigation measures such as VR-1a that would require minimizing night lighting impacts during construction would be required for the projects permitted under the DRECP. Similar mitigation would likely be required for the cumulative list of projects in Tables IV.25-1 through IV.25-4 and would reduce the cumulative effects of construction.

***Impact VR-2: The presence of project components and disturbance would result in long-term diminished scenic quality.***

Renewable energy facilities permitted under the DRECP would require equipment, structures, fencing, roads, and other elements to operate a facility that would have a long-term adverse effect on the visible landscape. Areas of persistent surface and vegetation disturbance and the presence of structures would create visual contrast in form, line, color, and texture as compared to pre-project conditions. Depending on viewer location, physical elements introduced by a project could block views or create skylining (silhouetting against the sky). Physical elements would be most visible for projects with large infrastructure such as wind projects or solar power tower projects. Even after project removal and site reclamation are completed, visual contrast would remain. The structure, size, and industrial character of utility-scale renewable energy and transmission facilities during operation and maintenance—as well as any associated glare, reflectivity, and lighting—would

visually contrast with surrounding undeveloped land and result in long-term diminished scenic quality.

Many of the projects listed in Tables IV.25-1 through IV.25-4 would have similar long-term impacts as those described for the DRECP. Areas such as the West Mojave and Eastern Slopes ecoregion subarea already have more than 20 operating wind and solar projects with structures that dominate the skyline. The area near Desert Center and Imperial County would also experience a substantial introduction of industrial projects due to the introduction of dozens of renewable projects in these areas. The Ivanpah solar project is already a major source of glare and reflectivity in that area. The majority of the projects listed in Table IV.25-4 would be less visible than the renewable energy projects listed in Tables IV.25-1 through IV.25-3 because they would be shorter in nature and in many instances do not introduce the same scale of industrial facilities. This notwithstanding, projects such as the Devers-Palo Verde No. 2, or Tehachapi Renewable Transmission Project would contribute to the diminished scenic quality and contribute to a cumulative visual impact.

Lands included in the reserve design and LUPA conservation designations would generally receive a higher level of protection for visual resources than currently exists, so the DRECP would not contribute to an adverse impact on visual resources in these areas.

### **CEQA Significance Determination**

**VR-1: Visibility of activities, materials, equipment, dust, and construction night lighting would result in short-term diminished scenic quality.** As described earlier, activities and equipment visible from residences, public roads, and public preserves would result in short-term diminished scenic quality for viewers during construction of projects permitted under the DRECP. If the construction of projects overlaps with construction of the cumulative projects list, such as would potentially be the case for the California High-Speed Rail or for residential or commercial development over the next few decades. However, few of the anticipated cumulative projects would be under construction at the same time as the projects permitted under the DRECP. Additionally, the DRECP renewable projects would implement CMAs to control dust and Mitigation Measure VR-1a to reduce the impact due to night lighting. Similar mitigation would likely be required for the cumulative projects and anticipated development. Therefore, this impact would be less than cumulatively significant.

**VR-2: The presence of plan components would create long-term visual contrast with surrounding undeveloped land and would result in long-term diminished scenic quality.** Long-term impacts to visual resources for the projects permitted under the DRECP would be significant and unavoidable. The projects listed in Tables IV.25-1 through IV.25-3 would be similar in nature and in combination with the projects permitted under the DRECP

would result in a significant cumulative impact. Changes in line, form, and color introduced by large-scale development and the contrast of such development with surrounding conditions create unmitigable degradation of views. The CMAs applicable to renewable energy and transmission projects would reduce the DRECP's contribution, but due to the size and nature of renewable energy projects, the impact would result in a cumulatively considerable contribution to the significant cumulative impacts.

#### **IV.25.3.21 Noise and Vibration**

The geographic scope for cumulative analysis for noise is generally within approximately one mile of a project site including truck routes. This is because noise impacts are generally localized. Because renewable energy projects could be built anywhere within DFAs, the cumulative geographic scope for noise is anywhere within one mile of the DFAs and truck routes for the entire DRECP and along the transmission corridors outside the Plan Area. The reserve design and LUPA designations would generally limit the extent of future development, and therefore would not contribute to cumulative noise impacts from development activities.

##### ***Impact NV-1: Plan components would generate noise that would adversely affect sensitive receptors.***

Renewable energy projects permitted under the DRECP would generate noise during construction and operation. Construction equipment used for the renewable development depends on the technology but is anticipated to be between approximately 80 to 88 dBA  $L_{eq}$  (equivalent level) 50 feet from the center of equipment activity (see Section IV.21.3.1.1.1). Blasting may be required for wind turbine foundations and may result in greater noise impacts. Renewable energy technologies and transmission permitted under the DRECP would result in long-term operational impacts due to operational and maintenance activities. All renewable energy operations would generate noise from employee vehicles accessing the site, power inverters, and other electronic infrastructure. In addition, wind turbines can have an aerodynamic noise that generates a whooshing or pulsing effect.

Multiple projects listed in Tables IV.25-1 through IV.25-4 are located within the DFAs or adjacent to them and would generate similar noise as described for the renewable energy projects permitted under the DRECP. Many of the cumulative projects have already been approved or are in the environmental review process, so their construction time frame would not overlap with projects approved under the DRECP. However, for the Preferred Alternative, Alternative 2 and Alternative 4, the Blythe Solar Power Project, Desert Harvest, Desert Sunlight, FSE Blythe 1, Genesis NextEra, McCoy Solar Energy Project, Palen Solar Power Project, and the Palo Verde Mesa project would all be within the DFAs in eastern Riverside County and would combine to result in cumulative operational impacts to noise.

Similarly, the Alta East, Rising Tree, Alta, Alta Infill, Windstar, Avalon, Morgan Hills, Catalina, Pacific Wind, and PdV projects among others, would be located within the DFAs in the West Mojave and could combine to generate operational noise impacts. In Imperial Valley, Calexico Solar Farm, Campo Verde Solar, Centinela Solar, East Brawley Geothermal Project, Hudson Ranch, Imperial Solar Energy Center West and South, the Imperial Valley Solar Company, Ocotillo Sol, Silverleaf Solar, Wistaria Ranch Solar, and Seville Solar Farm Complex would all be located within DFAs and could result in cumulative operational noise impacts. Cumulative noise impacts would be reduced through compliance with local laws and regulations and implementation of mitigation measures such as NV-1a (protect sensitive receptors from noise), NV-1b (implement noise reduction techniques), and NV-1c (protect residences from wind turbine noise).

***Impact NV-2: Plan components would generate ground-borne vibrations that adversely affect sensitive receptors.***

Renewable energy technologies and transmission permitted under the DRECP would generate vibrations during construction from the movement of heavy equipment, earth movement, pile driving, rock breaking, and explosives blasting. These impacts would be short-term and limited in nature. Wind, geothermal, and solar thermal permitted under the DRECP include the use of turbines during operation and have the potential to result in long-term vibrations. However, mechanical equipment typically used would be well balanced and designed to avoid substantial vibration levels. Monitoring systems are usually installed as well. Vibrations above the threshold of detectability would not be expected beyond the project boundary so this would not result in cumulative ground-borne vibrations.

***Impact NV-3: Plan components would generate noise or ground-borne vibration levels in conflict with local standards.***

Renewable energy technologies and transmission permitted under the DRECP would result in noise and vibration impacts from construction and operation, which would potentially conflict with local standards and impact local communities. At the time that specific renewable energy projects are proposed, a detailed analysis of noise and land use conflicts would be completed as part of the project-level environmental review and would require the project to comply with local standards. The cumulative list of projects listed in Tables IV.25-1 through IV.25-4 has already or would undergo an environmental review that would include consideration of local standards. Each project would be required to comply with the local standards or mitigate the project, so there would not be a cumulative impact on conflicts with local standards.

## CEQA Significance Determinations

**NV-1: Plan components would generate noise that would adversely affect sensitive receptors.** Development of renewable energy technologies and transmission permitted under the DRECP would result in noise from construction vehicles and activities, and from operational activities and vehicles. Few of the projects listed in Tables IV.25-1 through IV.25-4 would be under construction at the same time as the projects permitted under the DRECP so they would not be expected to combine to result in a cumulative impact. Cumulative projects listed in Tables IV.25-1 through IV.25-4 would likely result in similar noise from operational activities and vehicles that would combine with the noise from the projects permitted under the DRECP. Mitigation Measures NV-1a through NV-1c would normally be required to avoid noise levels that are excessive or substantially above ambient levels, and these measures would reduce the impact from projects. Similar mitigation would be required for cumulative development, so the impact would not be cumulatively significant.

**NV-2: Plan components would generate ground-borne vibrations that adversely affect sensitive receptors.** Development of the renewable energy technologies and transmission permitted under the DRECP would cause vibration impacts. The vibration impacts would not be expected to be noticeable beyond the project boundaries so there would be no cumulative impact due to ground-borne vibrations.

**NV-3: Plan components would generate noise or ground-borne vibration levels in conflict with local standards.** Development of renewable energy technologies and transmission would not conflict with local noise standards because they would be required to complete a noise and land use analysis to identify and mitigate any project-specific conflicts with local standards. Impact NV-3 would not contribute to a cumulative impact on local standards.

### IV.25.3.22 Public Health, Safety, and Services

The geographic scope for cumulative analysis for public safety and services is generally within the renewable energy project boundaries and the access routes and transmission route. This is where public safety and service impacts are generally localized. Because renewable energy projects could be built anywhere within DFAs, the geographic scope for cumulative impact analysis for public safety and services is anywhere within the DFAs and access routes for the entire DRECP and along the transmission corridors outside the Plan Area. The DRECP would not cover future development within the reserve design and LUPA conservation designations, so the Plan would not contribute to cumulative impacts on public safety and services impacts in those areas.

***Impact PS-1: Plan components would involve hazardous materials or conditions that could result in a hazard to the public or environment.***

All phases of renewable energy projects permitted under the DRECP would involve the transport, use, storage, and disposal of hazardous materials such as fuels, lubricating oils, hydraulic fluids, glycol-based coolants, lead-acid batteries, solvents, paints, cleaning agents, coatings, and herbicides. Solar facilities could also involve the use of the toxic elemental metal cadmium, Heat Transfer Fluid, dielectric fluids, TES salts (sodium and potassium nitrates), and steam amendment chemicals.

Construction, operations, and decommission activities of renewable energy permitted under the DRECP would involve movement of soil materials. Valley Fever is spread through the air and if soil containing the Valley Fever fungus is disturbed by construction, natural disasters, or wind, the fungal spores can be released into the air. Cooling water associated with solar thermal and geothermal facilities may become contaminated with bacterial growth and potentially contain *Legionella* bacteria.

Renewable energy sites may have existing contamination that could pose a risk to workers and the environment during site characterization, construction, operations, and decommissioning. Potential hazardous material impacts from projects permitted under the DRECP are increased risks of fires, human health impacts, and environmental contamination. This could lead to environmental impacts related to biological resources, surface water, groundwater, air quality, agriculture and grazing, and recreation.

The projects listed in Tables IV.25-1 through IV.25-4 would use many similar types of hazardous materials during construction, in particular fuels, lubricating oils, hydraulic fluids, glycol-based coolants, lead-acid batteries, solvents, paints, cleaning agents, coatings, and herbicides. Some of the projects would also result in a substantial amount of ground disturbance in areas where the Valley Fever spore is known to occur. NextLight Antelope Valley was required to stop construction due to concerns about dust management and Valley Fever until additional dust mitigation was put in place.

Cumulative impacts resulting from hazardous materials would only occur if projects were in near vicinity of each other and under construction at the same time. This includes cumulative impacts due to Valley Fever. Ground disturbance is stabilized after construction, reducing the risk of airborne fungal spores. Many of the projects listed in Tables IV.25-1 through IV.25-4 would be expected to have completed construction prior to construction of projects permitted under the DRECP. Some larger projects, such as the California High-Speed Rail and residential or commercial development projected in county General Plans could occur at the same time as projects permitted under the DRECP, which results in a cumulative impact. Implementation of CMAs and mitigation measures similar to PS-1a that

would implement hazardous material and waste minimization measures would reduce the DRECP's contribution to these cumulative impacts. This mitigation includes providing dust suppression measures to reduce potential exposure to Valley Fever spores.

***Impact PS-2: Plan components could result in an airport or air traffic safety hazard.***

Airport safety issues resulting from projects permitted under the DRECP include the operation of tall structures such as solar power towers and cooling towers for geothermal and solar thermal, and turbines for wind facilities. Solar panels and mirrors could produce glare, and solar thermal and geothermal facilities could produce steam and heat updrafts that might interfere with aircraft safety. The presence of transmission towers and conductors where aircraft are likely to fly is an air traffic safety concern. Airport safety hazard impacts are greatest where towers and lines would be located within 2 miles of an airport or within an Airport Land Use Compatibility Plan area.

Projects listed in Tables IV.25-1 through IV.25-4 would result in impacts to airport safety that are similar to those described for the projects permitted under the DRECP, and would result in a cumulative impact on airport safety and air traffic. In particular, the Ivanpah SEGS and Palen SEGS project and the existing and proposed wind projects in West Mojave would locate tall structures throughout the DRECP. Projects such as the Ivanpah SEGS and Genesis Solar Project would introduce a substantial number of mirrors that could produce glare. Transmission projects listed in Table IV.25-4 could also contribute to cumulative impacts to air traffic including the Sunrise Powerlink Project and Devers-Palo Verde No. 2 transmission line. Each project listed in Tables IV.25-1 through IV.25-4 has completed or is in the process of completing an environmental review that includes consideration of air traffic safety and if consultation with the Federal Aviation Administration if required. Mitigation measures such as safety beacons and marker balls are regularly required for structures over a certain height to reduce the cumulative impact on air traffic. In addition, the projects located throughout the Plan Area would be less likely to combine to result in a cumulative impact on air traffic.

***Impact PS-3: Plan components would create an increased risk of wildland fire.***

The construction activities permitted under the DRECP and expanded areas of development would increase the interface of wildlands and development. Renewable energy facilities could increase the potential for wildland fire hazards through clearing of vegetation, the use of hazardous materials, and the introduction of people, equipment, and vehicles into remote areas. The difficulty of extinguishing fires in solar panel fields and at the tops of the wind turbines could spread fires more quickly. Mitigation would require a Fire Management and Protection Plan to reduce the impact.

All projects listed in Tables IV.25-1 through IV.25-4 would also increase the interface of wildlands and development and could increase the potential for wildland fire hazards, resulting in a cumulative increased risk of wildland fire. The projects listed in Tables IV.25-1 and IV.25-4 would require emergency response plans, fire management plans, and standard protocols for industrial facilities. These plans would likely be effective in ensuring no cumulative effects related to emergency response or fire.

***Impact PS-4: Plan components would create a demand for new or expanded fire and emergency service facilities.***

Construction and operation of new renewable energy facilities permitted under the DRECP would result in additional police and fire service calls. As highlighted in Volume III, Chapter III.22, much of the development would be near existing fire stations and existing police stations and could affect the ability of responders to handle additional calls. Responders may need additional personnel or equipment.

Cumulative projects listed in Tables IV.25-1 through IV.25-4 would also potentially increase the need for emergency service facilities—combined with a potential to overwhelm emergency response providers if two emergencies occur at the same time—would result in a cumulative impact. Mitigation measures similar to PS-4a would likely be required for each project and require coordination with emergency responders to determine if they are able to adequately respond and provide support for emergencies.

***Impact PS-5: Plan components would generate solid waste and result in a need for new or expanded landfills.***

Construction, operations, maintenance, and decommissioning activities of renewable energy and transmission projects permitted under the DRECP would generate solid waste under all the alternatives considered in the EIR/EIS. The demand for landfill space or recycling would be especially intense during decommissioning, when thousands of acres of industrial materials (steel, polycarbonate, wiring, pipes) would be removed.

The cumulative projects listed in Tables IV.25-1 through IV.25-4 would result in similar types of construction waste. Similarly, the renewable projects listed in Tables IV.25-1 through IV.25-3 would generate thousands of acres of industrial materials during decommissioning if the materials were not recycled. To reduce the impact, mitigation measures such as PS-5a would require diverting project-related nonhazardous, nonrecyclable, and nonreusable construction and operation waste to landfills with adequate capacity if local landfills are near capacity.

## CEQA Significance Determination

**PS-1: Plan components would involve hazardous materials or conditions that could result in a hazard to the public or environment.** Projects developed under the DRECP as well as projects listed in Tables IV.25-1 through IV.25-4 may use hazardous materials during all project phases that could injure workers or the public if the materials are mishandled, released, or disposed improperly. If two hazardous materials are released in near vicinity of each other at the same time, this would result in a cumulative impact. Increased soil disturbance from the cumulative projects could release Valley Fever spores and the increased number of cooling towers associated with solar thermal and geothermal facilities could provide a breeding ground for *Legionella* bacteria. The disturbance of soil by many projects would result in cumulative impacts. Because the projects would need to be in close proximity to each other and because the cumulative projects would not likely be under construction at the same time as the projects permitted under the DRECP, this impact would be less than cumulatively significant. Implementation of existing laws and regulations and Mitigation Measure PS-1a would further reduce the contribution of the projects permitted under the DRECP for all alternatives.

**PS-2: Plan components could result in an airport or air traffic safety hazard.** Renewable energy and transmission line projects permitted under the DRECP and cumulative projects listed in Tables IV.25-1 through IV.25-4 would include tall features and other components that may interfere with airport safety and military operations, which would result in a cumulative impact on air traffic safety. Existing laws and regulations and mitigation measures required for each individual project ensure this impact is less than cumulatively significant.

**PS-3: Plan components would create an increased risk of wildland fire.** The projects permitted under the DRECP for all alternatives and the projects listed in Tables IV.25-1 through IV.25-4 would clear vegetation, use hazardous materials, and introduce people, equipment, and vehicles into remote areas as described earlier. This could increase the potential for cumulative wildland fire hazards. Mitigation measures would require the developers to prepare fire management and protection plans and would ensure the impact is less than cumulatively significant.

**PS-4: Plan components would create a demand for new or expanded fire and emergency service facilities.** Fires resulting from renewable energy and transmission lines developed under the DRECP could combine with fires resulting from the cumulative projects listed in Tables IV.25-1 through IV.25-4 to strain the ability of fire and emergency service providers to respond adequately. This would result in a cumulative impact. Implementation of Mitigation Measure PS-4a would ensure that the impact is less than cumula-

tively significant by requiring that project developers coordinate with the fire/emergency service providers and provide additional support where needed.

**PS-5: Plan components would generate solid waste and result in a need for new or expanded landfills.** Renewable energy project development and decommissioning and the cumulative projects listed in Tables IV.25-1 through IV.25-4 would generate waste that could exceed the capacity of local landfills. Mitigation Measures similar to PS-5a would require diversion of waste from landfills nearing capacity and ensure the impact is less than cumulatively significant.

### **IV.25.3.23 Socioeconomics and Environmental Justice**

The geographic scope for cumulative impacts of socioeconomics and environmental justice would be the entire DRECP and transmission corridors. Effects of socioeconomics would likely be county specific because local jurisdictions or districts provide public services and utilities, and the regional labor force would be expected to come primarily from counties within the DRECP and from neighboring counties.

***Impact SE-1: Plan components may induce substantial population growth, either directly or indirectly.***

Construction of renewable energy and transmission projects permitted under the DRECP will bring workers to the communities proximate to and serving individual project locations. This is because construction of utility-scale renewable energy and transmission projects typically requires large numbers of workers, many of whom have specialized skills. The development of any alternative will result in construction workers seeking to secure transient housing in nearby rural communities proximate to future project sites. Given the existing numbers of available housing units and vacancy rates within the overall Plan Area, rental housing is available throughout the Plan Area. However, workers seeking shorter commutes to projects located near small rural communities may potentially affect the availability of transient accommodations (hotels, motels, recreational vehicle, and mobile home parks). The overall number of transient units is expected to be small in rural desert areas compared to what is available in larger nearby communities.

Future renewable facilities permitted under the DRECP are not expected to require large numbers of on-site operations and maintenance employees. Geothermal facilities typically require the most on-site employees during operation when compared to solar and wind technologies. While minimal, it is assumed that some permanent in-migration will occur from specialized operations and maintenance workers within rural desert areas. Such growth is not expected to exceed projected growth for DFAs in the local and regional study areas.

The cumulative projects listed in Tables IV.25-1 through IV.25-4 would require similar large numbers of construction workers and result in an influx of workers. However, the majority of the projects in Tables IV.25-1 through IV.25-4 would not combine with the projects permitted under the DRECP to result in a cumulative impact because projects would not have overlapping construction time frames. Therefore, the influx of workers would not be likely to overlap with those from the renewable energy projects and would not result in a cumulative impact. Projects listed in Tables IV.25-1, IV.25-2, and IV.25-4 are already operational, under construction, or under environmental review such that construction would be likely to begin in the near future. Projects in Table IV.25-3 have already begun the process of working with the agencies to develop their projects. After the decision on the DRECP, projects would begin the DRECP permitting process and would then begin the CEQA and NEPA process. As such, their construction schedules are unlikely to overlap.

It is likely that operation and maintenance employees from the projects listed in Tables IV.25-1 through IV.25-4 would overlap with the operation and maintenance employees working on projects permitted under the DRECP, but this number would be minimal. Growth due to employees at geothermal facilities, which typically require the most on-site employees, is included in the Imperial County growth projections. Imperial County is the area most likely to include this technology (see Section IV.25.2.2.1). This growth would not result in a cumulative impact.

***Impact SE-2: Plan components may displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.***

As discussed in Section IV.23.3.2.1.1, it is possible that some minor level of residential purchases would be required for the amount of renewable energy and transmission development assumed under the DRECP. When considering the numbers of available housing units and vacancy rates in the Plan Area, it is unlikely that any residential relocations associated with development DFAs and necessary transmission infrastructure under any alternative would necessitate housing construction outside of regular growth occurring in the Plan Area. Some transmission corridors outside the Plan Area are adjacent to existing housing units. This is especially true in some of the more densely populated counties such as Los Angeles or San Diego. It may be challenging to accommodate a large transmission line given the existing conditions and projected growth (see Section IV.25.2.2). However, as discussed in Section IV.23.3.1.5.1, if an existing corridor would not accommodate a transmission line, the line would be routed to avoid existing housing, as purchasing properties would be extremely expensive. Therefore, transmission developed under the DRECP would not combine with the expected development in these counties to result in a cumulative impact.

The projects listed in Tables IV.25-1 through IV.25-4 would require limited if any displacement of people or existing housing. The projects listed in Table IV.25-1 have already been

approved and were primarily located on large, open space or agriculture properties and did not require the displacement of substantial numbers of people. Projects listed in Tables IV.25-2 through IV.25-4 are similarly large and are proposed on locations that are primarily open space or agricultural. Likewise these projects would not displace substantial numbers of people. No cumulative impact would occur.

***Impact SE-3: Plan components may affect economic development and government finance.***

As discussed in Section IV.23.3.2.1.1, renewable energy project facilitating and streamlining within Preferred Alternative DFAs may affect environmental amenities including environmental quality, stable rural community values, and cultural values. This could reduce a community's ability to attract some types of businesses. Other economic and demographic factors would play a role in the economic development potential of any particular location. Given the overall rural nature of the DFAs, it is unlikely that the renewable energy and transmission alone would be sufficient to encourage local economic growth or that established businesses would necessarily relocate because of the changes resulting from these projects. While analysis of these potential adverse impacts is speculative from a programmatic perspective, the implementation of mitigation measures would reduce potential adverse economic development impacts to regional and local governments associated with the alternatives.

Beneficial impacts would also occur from projects permitted under the DRECP. Workforce wages and spending during the construction and operation of future renewable energy and transmission projects would be an economic stimulator to regional and local governments. Other important public benefits include both short-term and long-term increases in local expenditures, payrolls, and sales tax revenues. These would positively affect the economy at state, regional, and local levels. Such economic benefits would not be limited to either the Plan Area or California, but would occur at some level to areas where renewable and transmission infrastructure project components are manufactured.

The projects listed in Tables IV.25-1 through IV.25-3 would have the same potential adverse and beneficial impacts as the projects permitted under the DRECP. The adverse effects of the cumulative projects could combine with the adverse effects of projects permitted under the DRECP if there is a tipping point at which the large infrastructure projects create conflicts. However, as mentioned earlier, quantifying how the renewable projects affect future economic growth is speculative. Beneficial impacts would also occur from projects listed in Tables IV.25-1 through IV.25-3 and could combine to result in a cumulatively beneficial impact.

***Impact SE-4: Plan components may generate social change and social disruption.***

As stated in Section IV.23.2.1.1, the nature and magnitude of the social impact of renewable energy development projects in small rural communities are still unclear. While some degree of social disruption is likely to accompany short-term construction worker in-migration (particularly if a number of renewable facilities are built simultaneously within the same localized rural area), there is insufficient evidence to predict the extent to which specific communities are likely to be affected, which population groups within each community are likely to be most affected, and the extent to which social disruption is likely to persist beyond facility construction. As discussed for Impact SE-1, in-migration of construction workers (and possibly their families) into rural communities containing and proximate to any alternative DFAs is expected. Regardless of the pace of population growth within these localized communities, the number of workers and scale of future development would create some demographic and social change.

Projects listed in Tables IV.25-1 through IV.25-4 would likely have similar impacts to social change and social disruptions as the projects permitted under the DRECP. However, the construction of projects listed in Tables IV.25-1 through IV.25-4 is not expected to overlap substantially with the construction of projects permitted under the DRECP. The labor force used to construct the projects listed in Tables IV.25-1 through IV.25-3 may well be the same labor force used to construct projects permitted under the DRECP in some cases because the renewable technologies are expected to be the same. For these reasons, cumulative impacts to social change and social disruption would only be expected to occur if the disruptions persist beyond facility construction. The extent of this long-term disruption and therefore its cumulative impact is still unclear. Nonetheless, implementation of socio-economic mitigation measures such as SE-1a and SE-1b (requires temporary housing) would reduce potential adverse social disruption impacts resulting from worker in-migration from the alternatives.

***Impact SE-5: Plan components may affect property values.***

Public comments on recent utility-scale renewable energy and transmission projects have included concerns that such facilities may adversely impact existing property values. As described in Section IV.23.3.2.1.1, to date such determinations prove speculative and several studies show that traditional electric generation facilities, transmission infrastructure, and wind turbines do not have long-term adverse effects on property values. More accurate site-specific conclusions would require knowledge of the local real estate market, historic sales trend data, and a long-term regression analysis of the local area. Due to the number of variables involved, any programmatic determination related to future renewable energy and transmission development associated with the Plan would be speculative.

The large numbers of renewable energy projects listed in Tables IV.25-1 through IV.25-4 also induce public concern about the impacts of renewable energy on existing property values. As with the projects permitted under the DRECP, site-specific conclusions would require knowledge of the local real estate market, historic sales trend data, and a long-term regression analysis of the local area. Due to the number of variables involved, any cumulative programmatic determination related to future renewable energy and transmission development associated with the Plan would be speculative.

***Impact SE-6: Plan effects would be disproportionately borne by minority or low-income populations.***

Several individual census tracts containing minority and low-income populations within the Plan Area disproportionately bear the acreage where projects would be potentially permitted under the DRECP (see Chapter IV.23). Facilitating and streamlining renewable energy projects within Preferred Alternative DFAs could translate into a disproportionate amount of future renewable energy projects occurring within these areas. Because some of the cumulative projects listed in Tables IV.25-1 through IV.25-4 would be located in the same census tracts containing minority and low-income populations, these projects would also impact census tracts with disproportionate numbers of minority and low-income populations. For example, the Imperial Valley Solar II, Midway Solar Farm, and Solar Gen 2 projects are located in an area that would be available for renewable energy development under all of the action alternatives, and this area has greater than 50% minority population. Impacts resulting from these cumulative projects would result in cumulative impacts disproportionately borne by minority populations.

Mitigation Measure SE-6 (identified in Chapter IV.23) would apply to all future renewable energy (regardless of technology type) and transmission development under the DRECP. This would include projects that may be developed within or adjacent to census tracts where disproportionate impacts may occur. These environmental justice mitigation measures ensure that extensive public outreach and additional study occur to mitigate any potential adverse environmental justice impacts associated with the alternatives. These measures reduce the cumulative effects.

**CEQA Significance Determination**

CEQA significance determinations are presented for Impacts SE-1, SE-2, and SE-6. As described in Section IV.23.1.2, the other three impacts are evaluated only under NEPA.

**SE-1: Induce substantial population growth in an area, either directly or indirectly.** Construction and operation of future utility-scale renewable energy and transmission projects permitted under the DRECP will bring workers to the communities serving DFAs.

The temporary in-migration of construction workers would result in the greatest increases in population. Operations and maintenance of renewable energy projects and transmission typically do not require a significant on-site workforce or resulting permanent in-migration of workers (and their families). While these activities would result in cumulative population increase to the area, projects permitted under the DRECP would not increase population beyond the expected growth shown. Similar in-migration of construction workers would result from the cumulative projects listed in Tables IV.25-1 through IV.25-4 where these project construction schedules overlap with the projects permitted under the DRECP. In-migration of construction workers is also due to construction of future residential and commercial development anticipated by cumulative projects. However, because construction of projects listed in Tables IV.25-1, IV.25-2 and IV.25-4 are likely to occur prior to the construction of projects under the DRECP, the potential for overlapping construction is minimal resulting in a less than significant cumulative impact. Where cumulative temporary worker in-migration would significantly increase population in smaller rural desert communities Mitigation Measure SE-1a (see Section IV.23.3.2.1.1) would reduce the contribution of the projects permitted under the DRECP.

**SE-2: Displace substantial numbers of existing housing or persons, necessitating the construction of replacement housing elsewhere.** As described earlier, the renewable energy projects and transmission permitted under the DRECP are unlikely to require the removal or displacement of any housing and it is assumed that any necessary land acquisitions would be completed prior to an application for development, with both parties agreeing to such purchases. The projects listed in Tables IV.25-1 through IV.25-4 are similarly unlikely to require removal or displacement of housing or people and on the rare occasion that a house would be removed or displaced, it would follow standard land acquisition practices. There would be no cumulative impact caused by displacing substantial numbers of existing housing or persons.

**SE-6: Plan effects would be disproportionately borne by minority or low-income populations.** Conservation actions under the Preferred Alternative are assumed to not result in disproportionate impacts to minority or low-income populations. The alternatives include a disproportionate amount of DFA acreage within both minority and low-income census tracts of concern. This could result in disproportionate adverse impacts from facilitating and streamlining of future renewable energy projects within the DRECP. Because a number of the projects listed in Tables IV.25-1 through IV.25-4 are located in or would cross the DRECP DFAs, they could also result in a disproportionate adverse impact on minority and low-income census tracts that could combine with those of the DRECP. Mitigation Measure SE-6a (see Section IV.23.3.2.1.1) would ensure environmental justice impacts are evaluated for each project and includes measures to reduce adverse impacts to

these communities. Similar measures would likely be required for the cumulative projects list. As such, the impact would be less than cumulatively significant.

#### **IV.25.3.24 Department of Defense Lands and Operations**

The geographic scope for cumulative impacts to DOD lands and operations is the entire Plan Area because the military operating areas and military training routes cover the majority of this area.

Cumulative impacts outside the Plan Area are not anticipated. This is because it is assumed that new Outside the Plan Area transmission lines would use existing transmission corridors between the Plan Area and existing substations in the more heavily populated areas of the state. These corridors are known to the DOD facilities and are already incorporated into their operations and training.

#### ***Impact DD-1: Renewable energy and transmission facilities would interfere with DOD lands and operations.***

As described in Chapter IV.24, projects permitted under the DRECP could impact DOD lands and operations due to glint, electronic jamming, and obstruction hazards to aircraft navigation from solar facilities. Wind energy projects can pose a physical obstruction and block radar wave transmission. The large number of solar and wind facilities listed in Tables IV.25-1 through IV.25-3 would result in similar types of interference with DOD lands and operations and would result in cumulative impacts. As noted in Section IV.24.2.1, wind turbines in particular appear as “clutter” to air defense radar and this clutter will increase in direct proportions to the number of turbines within the line of sight of the air defense radar. As such, the existing and proposed wind projects in the West Mojave would result in a cumulative impact on DOD operations. Mitigation measures similar to those adopted by each individual renewable project would require coordination with the DOD and regional military installations to ensure that no special precautions are needed.

#### **CEQA Significance Determination**

CEQA does not require separate analysis and significance determinations relating to DOD lands and operations.