

Attachment A

Draft Environmental Construction Compliance Monitoring Plan



SONORAN SOLAR ENERGY PROJECT

Draft Environmental and Construction Compliance Monitoring Plan

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BLM Phoenix District Office – Lower Sonoran Field Office

Arizona

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ABBREVIATIONS

BLM	United States Bureau of Land Management
EIS	environmental impact statement
EPA	Environmental Protection Agency
MOU	memorandum of understanding
POD	plan of development
ROD	record of decision
ROW	right-of-way
SSEP	Sonoran Solar Energy Project
WEAP	Worker Environmental Awareness Program

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1 INTRODUCTION

1.1 Background

The U.S. Bureau of Land Management (BLM) has decided to issue a right-of-way (ROW) grant authorizing the construction, operation, maintenance, and decommissioning of the Sonoran Solar Energy Project (SSEP) to Boulevard Associates, LLC (hereafter referred to as Holder of the ROW grant). The project covers approximately 2,013 acres and is located in Little Rainbow Valley in Maricopa County, Arizona, east of State Route 85 and south of the Buckeye Hills and the town of Buckeye. The SSEP consists of a 300-megawatt solar photovoltaic generating facility, a well field, and associated linear facilities (generation tie line, access road, water pipeline). A complete description of the project is found in the *Sonoran Solar Energy Project Final Environmental Impact Statement* (final EIS) (BLM 2011).

1.2 Purpose

The BLM requires holders of ROW grants to fund the implementation of an environmental and construction compliance monitoring plan (hereafter referred to as the compliance plan) to ensure compliance with BLM terms, conditions, and stipulations in the ROW grants; the plan of development (POD); and required mitigation as provided for in the record of decision (ROD).

A third-party contractor will be selected by the BLM to implement the compliance plan during both construction and operations. The third-party contractor will establish a compliance monitoring team, which will include a third-party compliance manager, third-party inspectors (hereafter referred to as inspectors), and third-party resource monitors (hereafter referred to as monitors). A qualified individual will be designated to serve as the third-party compliance manager. The compliance monitoring team will be responsible for developing and implementing the SSEP's compliance program. The team will be responsible for communicating and coordinating with the applicable regulatory agencies and ensuring compliance with the various conditions and requirements of the full range of project permits and approvals. The team will also be responsible for the necessary record keeping and reporting required by SSEP permits and will ensure that all applicable plans are up to date. The third-party compliance manager's role will include advising the BLM and project management of actual and potential compliance/noncompliance issues and ensuring that project planning takes appropriate account of compliance issues in advance.

This compliance plan consists of the following:

- Description of the responsibilities of the compliance monitoring team
- Outline of the level of effort anticipated from the compliance monitoring team in implementing this compliance plan
- Definition of the decision-making authority of the compliance monitoring team
- Description of the compliance monitoring team's participation in the Worker Environmental Awareness Program (WEAP)
- Descriptions of the responsibilities of the third-party compliance manager, inspectors, and monitors

This report also discusses monitoring, reporting, and documentation requirements, stop-work authority, and the variance process.

Appendices to this document are as follows:

- Appendix A. Environmental Inspection and Monitoring Program Monitoring Report
- Appendix B. Bureau of Land Management Weekly Compliance Report
- Appendix C. Certification of Completion of Worker Environmental Awareness Program
- Appendix D. Variance Request Form
- Appendix E. Summary of Bureau of Land Management Mitigation and Monitoring
- Appendix F. Compliance Program Contacts

2 OBJECTIVES OF THE ENVIRONMENTAL AND CONSTRUCTION COMPLIANCE MONITORING PLAN

The overall objective of the compliance plan is to provide direction for the compliance monitoring team on conducting inspections, evaluating compliance or noncompliance with the project measures and conditions, and documenting compliance or noncompliance. This compliance plan comprises both construction and operation phases of the SSEP.

The environmental mitigation requirements for the Holder comprise the following:

- Mitigation measures, project design features, and other measures documented in the final EIS and included in the ROD
- Terms, conditions, and stipulations in the ROD, ROW grant, and notices to proceed for the project
- Construction procedures and mitigation measures in the approved POD for the project
- Stipulations, terms, conditions, and other measures from other authorizing federal agencies' permits and approvals
- Stipulations, terms, conditions, and other measures from state and regional agencies' permits and approvals

During construction of the SSEP, the inspectors will inspect construction activities and ensure the implementation of the required mitigation measures. Inspectors will provide regular feedback to the third-party compliance manager, who will report on compliance issues to the BLM. The third-party compliance manager will involve other agencies such as the U.S. Fish and Wildlife Service or the Arizona Game and Fish Department in the monitoring and documenting of environmental compliance to the extent requested by those agencies and authorized by the BLM. The third-party compliance manager will provide the BLM with daily and weekly summary reports on the construction and monitoring efforts. Construction progress and environmental compliance will be tracked and documented in monthly summary reports and quarterly monitoring reports prepared and submitted as described in detail in Section 4 (Reporting and Documentation). Inspectors will report directly to the third-party compliance manager. The third-party compliance manager will report directly to the BLM Compliance Project Manager, the BLM Compliance Lead, and other identified compliance contacts, as directed by the BLM. A contractor selected by the BLM and funded by the Holder will serve as the BLM's designated third-party contractor and compliance monitoring team. In addition, the BLM's Compliance Project Manager and Compliance Lead will be supported by a third-party administrative contractor.

Other objectives of the compliance plan are to

- facilitate the timely resolution of compliance-related issues in the field;
- provide continuous information regarding noncompliance issues and their resolution to the BLM and other agencies and parties as authorized;
- review, process, and track construction-related changes to project plans (the third-party compliance manager will assist with implementation of the variance process in accordance with a predetermined level of decision-making authority granted by the BLM, as described in Section 5 [Variances]); and
- develop and implement a system for storing the information collected during implementation of the compliance plan in a format that will allow easy retrieval and search functions.

An important goal of the compliance plan is to promote open and clear communication to anticipate and resolve problems and avoid unexpected complications. To ensure/assist with this process, a spreadsheet with contact information for key BLM, Holder, compliance monitoring team, and construction contractor personnel will be assembled and distributed to all appropriate staff.

The third-party compliance manager shall act as the BLM's delegated third party to enforce required plans (as directed by the BLM Compliance Project Manager and the BLM Compliance Lead). Inspectors will conduct reviews and inspections of the construction of the project for compliance with applicable laws, ordinances, regulations, and standards, and will also be responsible for reporting compliance to the third-party compliance manager. All permits, licenses, approvals, compliance, or reviews potentially required are enumerated in the final EIS in Table 1.5.

3 ENVIRONMENTAL COMPLIANCE MONITORING AND MANAGEMENT

Following BLM approval of the SSEP, a ROW grant will be issued to the applicant, pursuant to the Federal Land Policy and Management Act. Under Title V (ROWs) of this act, the United States Secretary of the Interior is authorized to grant ROWs for the purpose of allowing systems for generation, transmission, and distribution of electric energy. Under the ROW, the BLM shall be responsible for ensuring that monitoring is conducted during all construction activities.

The BLM's compliance representatives for the SSEP are as follows:

- **BLM Authorized Officer:** the BLM Lower Sonoran Field Office Manager who is the administrative authority for the ROW grant issuance and authority for acceptance and ultimate approval of project related changes. The BLM Authorized Officer may designate this authority for change approval to the BLM Compliance Project Manager and the BLM Compliance Lead.
- **BLM Compliance Project Manager:** The BLM National Project Manager in charge of project compliance who may delegate to the BLM Compliance Lead to assist with management of the project.
- **BLM Compliance Lead:** The District Office Project Manager who is the local BLM point of contact for all compliance matters and will assist both the Field Manager (who is the Authorized Officer) and BLM National Project Manager (the Compliance Project Manager).

As described in Section 1.2, the third-party contractor's compliance monitoring team will consist of the following personnel:

- **Third-party compliance manager** reports directly to the BLM Compliance Project Manager and BLM Compliance Lead; roles and responsibilities are described in detail in Section 3.1.
- **Inspectors** report directly to the third-party compliance manager; roles and responsibilities are described in detail in Section 3.2.
- **Monitors** report directly to the inspectors; roles and responsibilities are described in detail in Section 3.3.

This organizational structure is shown in Figure 1, below. The third-party contractor will enter into a contract for the project with the Holder for the payment of the BLM compliance monitoring services provided. A memorandum of understanding (MOU) has been established between the Holder and the BLM to allow for the use of a third-party contractor, as provided for in 40 Code of Federal Regulations Section 1506.5. The MOU establishes an understanding of respective responsibilities, conditions, and procedures to be followed and specifies that all costs incurred by the third-party contractor will be borne by the Holder. The MOU also describes the responsibilities of the BLM and the Holder in the oversight of and communication with the contractor.

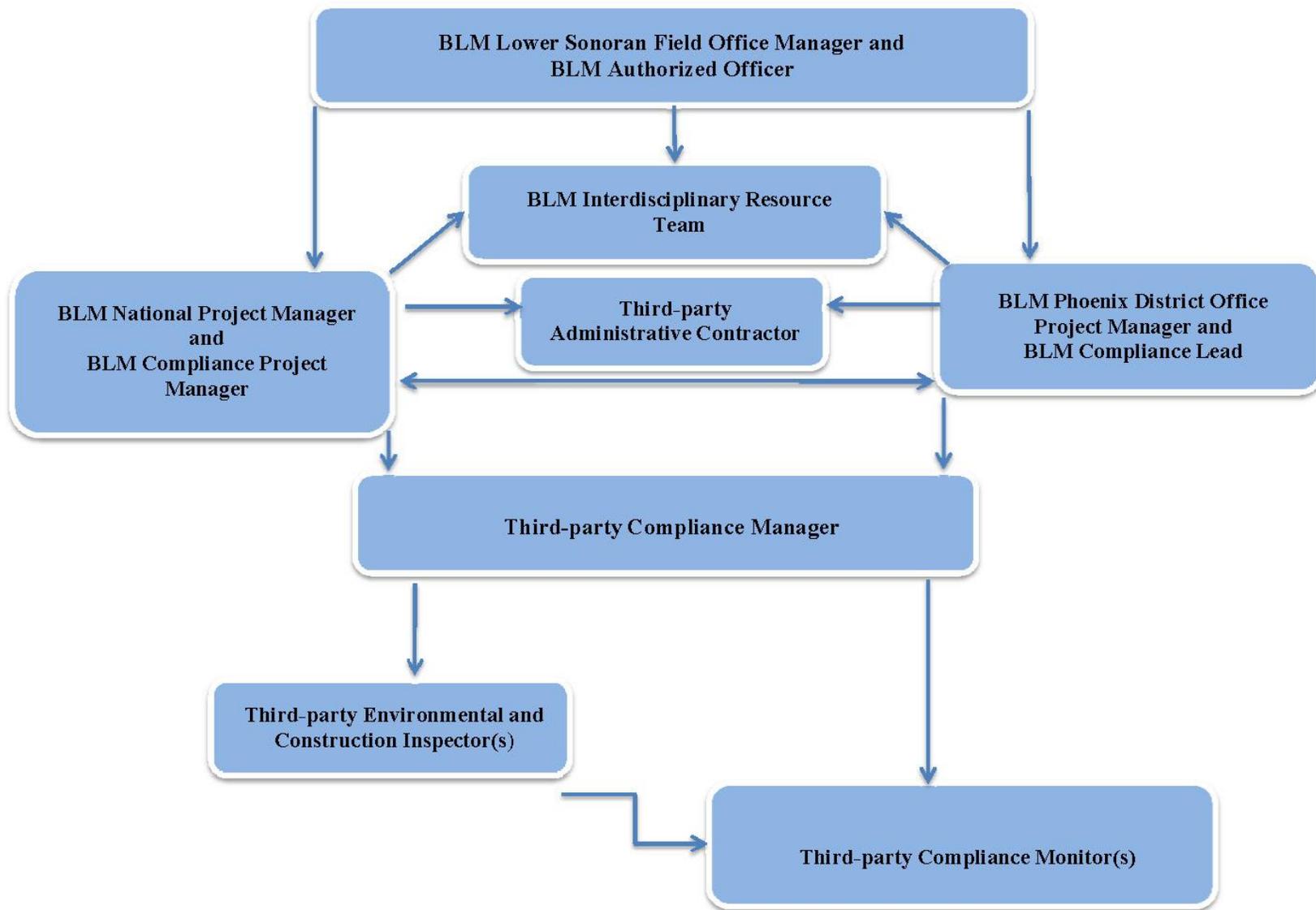


Figure 1. Compliance monitoring and management organizational structure.

3.1 Third-party Compliance Contractor Roles and Organization

3.1.1 Third-party Compliance Manager

The third-party compliance manager for the SSEP will oversee management of the compliance plan; prepare project materials; participate in any BLM preconstruction meeting; participate in or conduct the Holder's WEAP; supervise the monitoring activities, materials, and schedules; supervise the inspectors and monitors; provide guidance on and review of compliance issues; review and process variance requests; review and/or provide daily reports and weekly summary reports; and submit and distribute monthly and quarterly reports. The third-party compliance manager's planned monitoring coverage assumes that the construction contractors will demonstrate a high level of environmental compliance, and that their responsible personnel will be qualified and experienced.

Specific third-party compliance manager responsibilities are as follows:

- Report directly to the BLM Compliance Project Manager, BLM Compliance Lead, or other designated BLM compliance contacts.
- Participate in the preconstruction meeting.
- Participate in and/or conduct the WEAP kick-off meeting.
- Verify the Holder's compliance with the project environmental requirements.
- Supervise the monitoring activities, materials, and schedules.
- Supervise the inspectors.
- Regularly evaluate the effectiveness of the environmental compliance monitoring in consultation with the BLM to ensure adequate staffing.
- Ensure that all reported noncompliance is tracked for resolution by the Holder.
- Review, approve, and distribute monitoring reports, correspondence, and scope of work and schedule changes.
- Review work progress, schedules, and budgets related to compliance monitoring activities.
- Confer with the BLM Authorized Officer and Compliance Lead as needed.
- Serve as the contact between BLM and the Holder for compliance matters.
- Serve as BLM's representative to permitting agencies, private landowners, and special interest groups regarding the environmental mitigation efforts on the project.
- Coordinate with the BLM and other agencies, as necessary, on reviewing and approving variance requests.

3.1.2 Construction Inspectors

The third-party compliance manager will supervise sufficient full-time, on-the-ground inspectors during construction of all phases of the project. The number of inspectors will be determined based on the specific activities during each construction phase. Specifically, the need for full-time inspectors may be re-evaluated throughout the construction phase and the schedule adjusted, as necessary, if conditions demand.

During construction, many factors may affect the specific deployment of the inspectors. These include the activity occurring at specific times of inspection, any noncompliance or problem areas documented during previous inspections by the inspectors, site-specific conditions at the time of construction, skill levels and attitudes of the contractor crews and foremen, and the number of inspection team members. If determined necessary, the third-party compliance manager will provide additional, adequately trained support staff to act as inspectors on an as-needed basis.

The primary responsibility of the inspectors will be to monitor and document the Holder's construction, compliance, and/or noncompliance with the project environmental requirements. The inspectors will also review and approve variance requests, as appropriate to their authority level, for implementation of limited variations from mitigation measures previously agreed to by the Holder or stipulated by other agencies (refer to Section 5 [Variances]).

Prior to the start of construction, the inspectors will become familiar with the Holder's design review/approval and environmental compliance management program, participate in the preconstruction meeting, participate in the WEAP, and receive additional training as needed from the third-party compliance manager. The inspectors will become familiar with the roles and responsibilities of the Holder's field team(s), monitors, the required environmental reporting responsibilities, and the chain of communication. The Holder will provide the inspectors and the third-party compliance manager with copies of all permit requirements and construction plans for the project prior to initiation of construction. Inspectors shall be present during all ground-disturbing activities.

The inspectors will communicate with the Holder's compliance staff on a regular basis. This approach will allow the Holder's personnel and the inspectors to exchange information on the status of construction and to discuss any significant construction events scheduled over the next two to three days. Construction activities will be monitored by the inspectors, either with the Holder's representatives or independently. The inspectors will have the authority to order the halt of a specific noncompliance activity that is damaging, that has the potential to damage a sensitive environmental resource, or that is not being performed according to applicable environmental standards. The inspectors will also have the authority to stop work and report directly to the third-party compliance manager to ensure compliance with the project description, applicant-proposed measures, and mitigation measures.

The inspectors will record observations, including digital photographic documentation, at each location visited. This process will ensure consistent and accurate reporting of site conditions at the time of inspection. Each activity monitored will be assigned a compliance level and documented in a daily report (refer to Section 4.1 [Daily Reports and Weekly Summary Reports]). Daily reports will be combined by the inspectors into weekly summary reports, which will be submitted to the third-party compliance manager for review. Inspectors will also assist with monthly summary and quarterly monitoring reports.

3.1.3 Resource Monitors

Monitors will be the on-the-ground compliance personnel responsible for implementing the compliance program related to specific resources. During construction of the SSEP, the monitors will conduct inspections of construction activities and of the implementation of mitigation measures required for specific resources. Monitors will provide regular feedback through the inspectors to the third-party compliance manager, who will report on compliance issues to the BLM. Monitors may include cultural resource specialists or designated biologists with specific expertise in special status wildlife or plant species, as well as paleontologists, air quality specialists, water quality monitors, etc.

Monitors will provide inspectors with daily reports.

3.2 Monitoring Schedule, Success Criteria, and Adaptive Management

The Holder will be responsible for the successful implementation of all required mitigation, design features, applicant committed environmental protection measures, stipulations, and other conditions of approval. In order to monitor compliance, the compliance team may designate specific success criteria for some measures, as well as develop a monitoring schedule that is reasonable for each specific resource, measure, or project phase. In cases where these success criteria are developed, they will be shared with the Holder. Monitoring of some resources may be required for the life of the project.

BLM will use adaptive management to gauge the level of monitoring required, as well as to modify mitigation measures, etc. if compliance with a condition of approval is not successful. The monitoring schedule will also be adaptable to account for the seasonality of a particular resource concern, the record of successful implementation to date, and the project's schedule for construction and operation. Table E1 of Appendix E includes specific compliance actions for required mitigation measures.

4 REPORTING AND DOCUMENTATION

The third-party compliance manager and all compliance monitoring personnel will use a comprehensive quarterly summary database reporting system that is posted on a nonpublic, secure website (refer to Section 4.4 [Nonpublic Project Website]) and is available for review to other approved jurisdictional agencies. Under this program, each entire quarterly report, consisting of all compliance levels and photographic documentation from logs, will be available and will provide BLM project personnel and applicable agencies with a readily accessible record of construction progress, photographic documentation, and documentation of compliance with the project environmental requirements. The specifics of the reporting and documentation to be used for the SSEP are described in the following sections.

4.1 Daily Reports and Weekly Summary Reports

Each inspector will compile his/her activity logs, contact information documents, and daily monitor reports into a daily report on the required cover and form provided in Appendix A. The inspector will document the construction level as a percent complete or other identifying method as agreed to by the BLM; document the presence of sensitive species or habitat and culturally sensitive sites; and provide a brief description of the construction activities observed (such as road grading, erosion control, etc.). When appropriate, relevant digital photographs will be taken and included in the daily report.

Each separate activity monitored and documented in a log will be assigned a compliance level. The compliance levels that will be used for the SSEP are as follows:

- Communication
- Acceptable
- Problem area
- Noncompliance
- Serious violation

Daily reports will be combined by the inspectors into a weekly summary report, which will be submitted to the third-party compliance manager for review and subsequent submittal to the BLM.

4.1.1 Communication

A communication report will be prepared, when necessary, to document and track relevant meetings or discussions between the third-party compliance manager and agencies, Holder personnel, inspectors, or other contractor personnel.

4.1.2 Acceptable

An acceptable report will be prepared when an inspector determines that an inspected area or activity complies with the project specifications and all mitigation measures have been adequately implemented.

4.1.3 Problem Area

Inspectors will prepare a problem area report to record an observation that a location or activity does not meet the definition of *acceptable* but is not considered a *noncompliance*. The problem area category will be used to report a range of events and observations including the following:

- An incident that is accidental or unforeseeable but is not out of compliance with the project specifications, and the Holder's response is appropriate and timely. An example would be a fuel leak where project personnel respond properly by stopping, containing, and cleaning up the spill in accordance with project specifications.
- A location where the project is not out of compliance with the specifications but, in the judgment of the inspectors, damage to resources could occur if corrective actions are not taken. Some examples are as follows:
 - A topsoil pile located on the bank of a drainage
 - An improperly constructed/located erosion control structure
- An activity that the inspectors determine is an unintentional and isolated departure from the project specifications, with no damage to resources. An example would be a small amount of blading or mowing outside the access pathway that has no effect on sensitive resources such as sensitive plant habitat or a waterbody.

If a problem area is resolved in a timely manner, it will not be considered a noncompliance. If a problem area is found to be a repeat situation or multiple instances of a similar nature occur, if it is not corrected within the established time frame or results in resource damage because timely corrective action failed to occur, the inspectors may document the problem area as a noncompliance, as described in the following section.

4.1.4 Noncompliance

A noncompliance report will be issued when an inspector observes an activity that violates (defined as not in compliance with) the project specifications or other requirements; results in damage to resources; or places sensitive resources, personal safety, or worker safety at unnecessary risk. Some examples of noncompliance activities are as follows:

- Failure to install or maintain required erosion control devices
- Surface-disturbing activities conducted without an appropriate biological, cultural, Native American/tribal, or other resources monitor present, as necessary

The inspectors will notify the third-party compliance manager, who will notify the Holder's compliance staff about a noncompliance before issuing a noncompliance report. The noncompliance report will

include the name of the inspector or monitor and the time of notification. Where practicable and where the nature of the noncompliance activity warrants, the inspector or monitor will work closely and collaboratively with the third-party compliance manager to determine the appropriate corrective action.

Resolution of noncompliance activities will involve close coordination with the Holder's compliance staff, the BLM, and contractor construction supervisory personnel to ensure that the corrective measures are properly understood and implemented. It is the responsibility of the Holder's compliance staff to provide follow-up documentation to the BLM and other agencies with appropriate jurisdiction over the issue as well as to the third-party compliance manager. Once the Holder documents the resolution of a noncompliance, the applicable inspector will monitor the area and verify and document that the noncompliance has been adequately resolved.

4.1.5 Serious Violation

A serious violation report will be issued by an inspector immediately on observing an activity that is not in compliance with the project specifications and causes substantial harm to resources or poses a serious threat to sensitive resources or worker/public safety. Examples of serious violations include deliberately conducting an activity that results in disturbance within an exclusion zone for a sensitive resource, repeated or cumulative noncompliance activities that could lead to a substantial impact on resources, and failure to correct previously identified noncompliance activities in an established time frame.

A serious violation report requires that the third-party compliance manager and the BLM Compliance Project Manager, BLM Compliance Lead, or other designated BLM compliance contacts participate in a conference call or meeting with the Holder's compliance staff for the project to discuss the violation, the proper corrective actions, and possible follow-up enforcement actions that could be imposed. It will be the responsibility of the Holder's compliance staff to provide follow-up documentation to the BLM and other agencies with appropriate jurisdiction over the issue as well as to the third-party compliance manager. Once the Holder documents the resolution of a serious violation, the inspector will inspect the area and verify that the issue has been adequately resolved.

4.2 Monthly Summary Reports

Monthly summary reports may be issued that briefly describe construction activities during the reporting period and summarize by compliance level the number of reports completed by the inspectors during that reporting period and cumulatively for the construction period for that project phase. The monthly summary report will also include a table of problem area and noncompliance reports issued by the inspectors during the reporting period and the Level 1, 2, and 3 variance requests approved by the inspectors and the third-party compliance manager during the reporting period. The monthly summary report will also include a table summarizing the net and cumulative acreage of land affected by approved variances on federal land and, for the Archeological Resources Protection Act and Endangered Species Act (if applicable), nonfederal land for the reporting period. The third-party compliance manager's baseline electronic database reporting system will be designed to generate all the information in the tables of the monthly summary report.

The monthly summary reports will be posted on the nonpublic, secure project website (refer to Section 4.4). When the monthly summary report is posted, the third-party compliance manager will send an email to individuals on the authorized distribution list stating that the report is available. The email will include the link to the website. The BLM, third-party compliance manager, and the Holder representatives will be included in the distribution for the monthly summary report. A sample weekly summary report is provided in Appendix B.

4.3 Quarterly Monitoring Reports

Each inspector will compile his/her daily and weekly activity logs and contact information documents into a quarterly report on the required cover and form provided in Appendix A. The inspectors will document the construction level as a percent complete or other identifying method, as agreed to by the BLM; document the presence of sensitive species or habitat and culturally sensitive sites; and provide a brief description of the construction activities observed (such as road grading, erosion control, etc.). When appropriate, relevant digital photographs will be taken and included in the quarterly report.

Each separate activity monitored and documented in a log will be assigned a compliance level, as stated in Section 4.1.

At the end of each quarter, the separate quarterly reports will be compiled into one quarterly monitoring report, reviewed by the third-party compliance manager, and posted on the nonpublic password-protected project website (refer to Section 4.4 [Nonpublic Project Website]). A flow diagram of the reporting system is shown in Figure 2. When the reports are posted, the third-party compliance manager will send an email to individuals on the authorized distribution list stating that the reports are available. The BLM, third-party compliance manager, and authorized Holder representatives will be included in the distribution for all reports.

4.4 Nonpublic Project Website

The third-party compliance manager will establish and maintain a nonpublic, password-protected project website to display monitoring reports and the approved Level 1, 2, and 3 variances (refer to Section 5 [Variances]). The BLM and third-party compliance manager representatives will have access to the entire website. The Holder's representatives may have access to the website (or parts of it), based on approval from the BLM. A third-party administrative contractor will assist the BLM with the website and with the internal review, distribution, filing, and compliance processes.

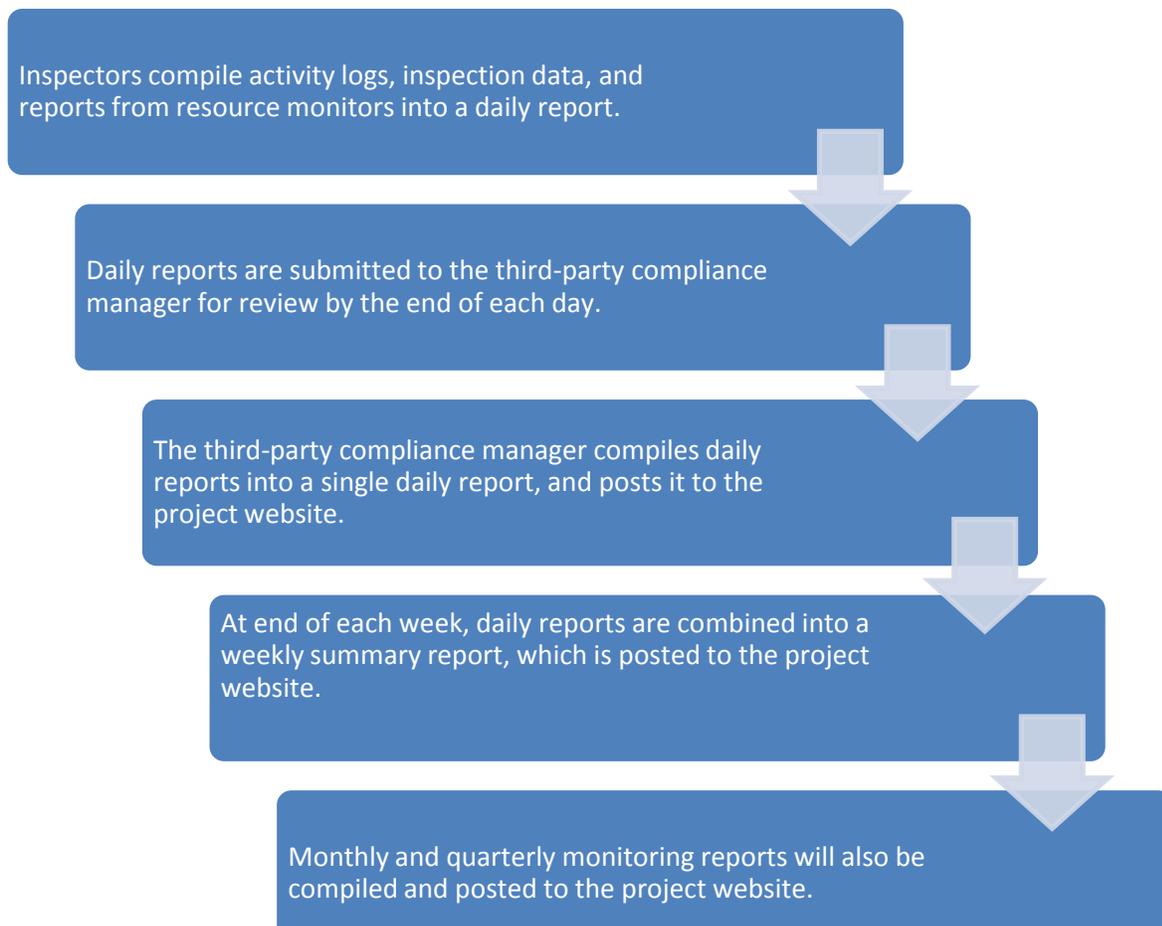


Figure 2. Reporting system.

5 VARIANCES

During construction, unforeseen or unavoidable site conditions could result in the need for changes from the approved mitigation measures and construction procedures. Additionally, the need for route realignments, extra workspace, or changes to previously approved construction work areas may arise. Changes to previously approved mitigation measures, construction procedures, and construction work areas will be handled in the form of variance requests to be submitted by the Holder and reviewed and approved or denied by the BLM, with the delegation of some authority for variances to the third-party compliance manager and inspectors. The variance process may also be used as a mechanism to clarify discrepancies or inconsistencies discovered in project materials and/or to distribute information to the entire project team.

A system of three variance levels (Levels 1, 2, and 3) will be used to categorize and process variance requests. The three variance levels, the review and distribution process, and the decision-making authority proposed for each level are discussed in the following sections. A sample variance request form is provided in Appendix D.

5.1 Level 1 Variances (field decisions)

Level 1 variances are site-specific, minor, performance-based changes to project specifications, construction methods, or mitigation measures that provide equal or better protection to environmental resources or better constructability. These minor variance requests can be reviewed and either approved or denied by the inspectors in the field during normal construction operations.

Examples of Level 1 variance requests include the following:

- Allowing rubber-tired vehicles to use additional access roads that would not require any improvement to the road or repairs after construction (“like use”)
- Minor variations in site-specific plans that reflect differences in site conditions from those that were expected when the plan was developed (e.g., relocation of a spoil storage area within previously approved work areas)
- Minor changes to the project design that are required due to site-specific restrictions

Level 1 variances may also be used to document and disseminate agency-directed changes to mitigation measures.

To initiate a Level 1 variance request, the Holder’s representative will fill out a variance request form using the form in Appendix D and obtain the appropriate signatures. The Holder’s representative will then contact the inspectors to review the proposed change. The Holder’s representative and the inspectors will work together to evaluate the site-specific situation and determine if the variance request is appropriate.

Inspectors may approve a Level 1 variance request if the results of implementing the change will provide equal or better protection for the resource than the original mitigation measure, or if the original mitigation measure is not applicable to that specific site. If a Level 1 variance request is approved in the field, the inspectors will sign the variance request form. A Level 1 variance request can be implemented in the field as soon as it is approved by the inspectors.

Inspectors will document the variance approval in his/her log, will include the variance in the daily and weekly summary reports (refer to Section 4.1 [Daily Reports and Weekly Summary Reports]), and will transmit the approved form for posting on the project website (refer to Section 4.4 [Nonpublic Project Website]).

If the requested variance exceeds the inspector’s authority level, the inspector will inform the Holder’s representative that a Level 2 or Level 3 variance request is required.

5.2 Level 2 Variances

A Level 2 variance request exceeds the field decision authority of the inspector and requires processing by the third-party compliance manager. Level 2 variance requests generally involve project changes that would affect an area outside the previously approved work area, but within the areas previously surveyed for cultural resources, sensitive species, and biological resources. Level 2 variance requests typically require the review of supplemental documents, correspondence, and records.

Examples of Level 2 variance requests include the following:

- The use of extra workspace outside the previously approved work area but within previously surveyed areas

- The use of existing access roads that have not been previously approved if the use would not be considered “like use” that could be approved as a Level 1 variance (refer to Section 5.1 [Level 1 Variances])
- Modifications to the plans specifically different than those in the approved POD

To initiate a Level 2 variance request, the inspector or other designated representative will fill out a variance request form, prepare the appropriate supporting documentation, and obtain the required signatures.

The inspector will complete and submit the variance request form and supporting documentation by email (scanned copy) or fax to the third-party compliance manager. Once the approval of the BLM Compliance Project Manager, BLM Compliance Lead, other designated BLM compliance contact, or the Authorized Officer (as appropriate) is obtained, the third-party compliance manager will process the request.

If the Level 2 variance request is approved, the third-party compliance manager will sign the variance request and email the approved form (scanned copy) to the Holder’s representatives, the inspectors, and the BLM Compliance Project Manager or BLM Compliance Lead. The variance may be implemented in the field as soon as the approved variance is received. Verbal approval for Level 2 variance requests will not be granted. The third-party compliance manager will document the variance approval in the log, will include it in the daily and weekly summary reports (refer to Section 4.1), and will post the approved variance request form on the project website (refer to Section 4.4).

5.3 Level 3 Variances

Level 3 variance requests generally involve project changes that would affect an area outside the previously approved work area; outside the areas previously surveyed for cultural resources, sensitive species, and biological resources; or that would change the function, structure, technology required, or other part of the project previously approved in the POD. Level 3 variances may need to be implemented through an amendment to the ROW grant.

To initiate a Level 3 variance request, the inspector or other designated representative will fill out a variance request form, prepare the appropriate supporting documentation, and obtain the required signatures.

The inspector will complete and submit the variance request form and supporting documentation by email (scanned copy) or fax to the third-party compliance manager. Once the approval of the BLM Compliance Project Manager, BLM Compliance Lead, other designated BLM compliance contact, or the Authorized Officer or is obtained (as appropriate), the third-party compliance manager will process the request.

Level 3 variance request approvals must be signed by the BLM Authorized Officer or BLM Compliance Lead in the case of an ROW grant amendment. The variance may be implemented in the field as soon as the approved variance is received. The third-party compliance manager will document the variance approval in the log and daily and weekly summary reports (refer to Section 4.1), and post the approved variance request form on the project website (refer to Section 4.4).

6 STOP-WORK AUTHORITY

The BLM has the authority to stop construction of the SSEP if an activity is determined to be a deviation from the project environmental and cultural resource protection requirements or approved construction plans.

This authority may be delegated to the third-party compliance manager or inspectors, as determined appropriate by the BLM.

7 TRAINING AND PRECONSTRUCTION MEETING

The third-party compliance manager will ensure that the Holder prepares and conducts a WEAP for the construction contractor personnel prior to the start of construction. The BLM Compliance Project Manager or BLM Compliance Lead (and possibly other BLM compliance contacts), the third-party compliance manager, and the inspectors will participate in the WEAP to present an overview of the compliance plan and to become familiar with the Holder's environmental inspection program and personnel. The third-party compliance manager, the BLM Compliance Project Manager or the BLM Compliance Lead will explain the various components of the compliance plan and emphasize its objectives. The discussion will focus on the activities of the inspectors and their interactions with the Holder's compliance staff and construction personnel.

The monitoring and documentation of compliance issues and construction progress will be described. A clear and concise explanation will be presented with respect to the variance request decision authority that the inspectors will have in the field. Procedures that may be required to address variance requests will also be presented, as well as the time frame required for decisions to be made prior to implementation.

Before the Holder training, the third-party compliance manager will ensure that BLM and the Holder participate in a preconstruction meeting. The purpose of the meeting will be to review ROW stipulations, POD requirements, mitigation measures, conditions, and expectations; to receive information on current construction plans, timing, and locations; to improve communications; and to issue a Notice to Proceed prior to the start of construction. Biological conditions, cultural resource conditions, construction transportation and access plans, construction process requirements (staking ROW, weed treatments, dust control, etc.), and reclamation of disturbed areas will also be discussed. The third-party compliance manager and other members of the compliance monitoring team will be included in the preconstruction meeting, along with representatives of the construction contractor. In addition to participation in the WEAP and the preconstruction meeting, the third-party compliance manager will train the inspectors in all project-specific procedures, duties, responsibilities, reporting requirements, and authorities (which include the authority to grant variances) to complete their assigned tasks during monitoring of the SSEP construction activities.

8 EQUIPMENT

Personnel responsible for monitoring and documenting compliance with the measures in the compliance plan will require field support equipment such as notebook computers and associated software, digital cameras, cellular telephones (smart phones), and vehicles. Specifically, the third-party compliance manager and each inspector will be equipped with a notebook computer and appropriate software to facilitate the compilation, transfer, and storage of data. The third-party compliance manager and each inspector will also be equipped with a digital camera, cellular telephone or other communication device, and vehicle adapter. A four-wheel drive vehicle will be provided to each full-time inspector throughout construction to maintain access to all areas of the ROW.

9 SSEP OPERATIONS

Before operation of the SSEP begins, this compliance plan will be modified to provide detail to roles and responsibilities for those operations, along with actions to be taken and maintained to ensure compliance

with operational permits, approvals, plans, and additional applicable rules. The revised document will include, at a minimum, provisions for the following:

- A third-party compliance manager, with the role of ensuring compliance with the plan
- Adaptive management procedures to address changes in conditions, regulations, etc.
- Means of accurately tracking compliance (e.g., compliance tracking database)
- Coordination with BLM and other agencies to report noncompliance issues
- Initial training and refresher training of personnel, commensurate with their roles and responsibilities
- Inspection and monitoring procedures
- Reporting and recordkeeping procedures
- Measures to address decommissioning of the SSEP at partial and final closure

Depending on the role and time required, the third-party compliance manager may designate other appropriately trained staff to carry out his/her responsibilities.

10 LITERATURE CITED

BLM. 2011. *Sonoran Solar Energy Project Final Environmental Impact Statement*. October 2011.

Appendix A

Environmental Inspection and Monitoring Program Monitoring Daily Report

PROJECT: SSEP

COMPLIANCE MONITORING PROGRAM MONITORING REPORT COVER PAGE

SAMPLE MONITORING REPORT (COVER PAGE)

The following report is a compilation of the monitoring reports issued by the construction inspectors and/or compliance manager for activities conducted on [Month] [Day], 20[XX]. Should you have any questions regarding the information contained in this report, please contact INSPECTOR at (XXX) XXX-XXXX (office) or (XXX) XXX-XXXX (cell phone).

Communication
Acceptable
Problem Area
Noncompliance
Serious Violation

Approved Level 1 Variance
Approved Level 2 Variance
Approved Level 3 Variance

Compliance Level

Total Reports

PROJECT: SSEP

**ENVIRONMENTAL INSPECTION AND MONITORING
PROGRAM
MONITORING REPORT**

Report Number: _____ Date of Report: _____

Construction Inspector: _____

Compliance Level: _____

Environmental Inspector: _____ Construction Method: _____

Location

Construction Spread: _____ Tract #: _____ Tract #: _____ Tract #: _____

Begin Milepost: _____ End Milepost: _____

Begin Station: _____ End Station: _____

Inspection Notes:

Photos:

Appendix B

BLM Weekly Compliance Report



BLM Weekly Compliance Report

Address:
City, State Zip

Phone:
Fax:

Website:

Project: Sonoran Solar Energy Project

Weekly Project Update

Project:

Week Ending:

Prepared By:

1. Executive Summary of Current Issues

The following construction activities were observed

onsite: **General:**

Civil:

STG:

BOP Equipment:

Concrete Placement:

BLM Authorized Officer NOTE:

Plan Review Submittal Items

Submittal Type	Description
Received, Review Pending	
Reviewed and Approved / Conditionally Approved	
Reviewed and Correction List Issues	

Inspection:

2. General Activities Occurring at the Project Site

3. Completion Percentage of Overall Construction

Week	Period of Projection	% Complete (projected)	% Complete (updated)

Table Note 1: The percentage complete is an estimate only and is not derived directly from the project schedule. *Table Note 2:* Number of weeks from Notice to Proceed/Start Date.

4. Compliance Issues with Applicable Laws, Ordinances, Regulations, and Standards and Applicable Conditions of Certification (e.g., areas out of compliance, interpretational disagreements, etc.)

5. Issues of Concern with or by the Holder

6. Status of Interconnections (e.g., Fuel Gas, Water Connections, Electricity to Grid, etc.)

7. Scheduled Activities for Next Week

8. Potential Delays to the Online Date of the Project

9. Project Photographs from Week

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Appendix C

Certification of Completion of Worker Environmental Awareness Program

Certification of Completion Worker Environmental Awareness Program

This is to certify these individuals have completed a mandatory Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on cultural, paleontological, and biological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on-site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the quarterly monitoring report.

No.	Employee Name	Title/Company	Signature
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			

Cultural Trainer: _____ Signature: _____ Date: ____/____/____

Paleo Trainer: _____ Signature: _____ Date: ____/____/____

Biological Trainer: _____ Signature: _____ Date: ____/____/____

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Appendix D

Variance Request Form

Variance Request Form			
<div style="border: 1px solid black; width: 80px; height: 80px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> LOGO </div>	COMPANY ADDRESS CITY, STATE ZIP PHONE	Variance: _____ Request No.: _____ Date Submit: _____ Date Approval Needed: _____ Date Agency Received: _____ Agency Approval Reference No.: _____	
Request Prepared by: Spread/ Location (Milepost): Alignment Sheet / Sta. No.: Landowner: Current Land Use/ Vegetative Cover: Nearby Features (Water body, T&E Habitat, Wetland, Noxious Weed) Area, Residence, Cultural Resource Site (distance, etc.): Variance Level: <input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3	Net acreage affected: Tract No: In or within 50 feet of a wetland: <input type="checkbox"/> Yes <input type="checkbox"/> No Within 50 feet of a water body: <input type="checkbox"/> Yes <input type="checkbox"/> No		
(To Be Assigned by Designated Representative)			
Variance From: <input type="checkbox"/> Permit <input type="checkbox"/> Plan/Procedure <input type="checkbox"/> Specification <input type="checkbox"/> Drawing <input type="checkbox"/> Mitigation Measure <input type="checkbox"/> Other:			
Detailed Description of Variance: Attachments? <input type="checkbox"/> Yes <input type="checkbox"/> No Photos? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Variance Justification:			
For (Company Name) Use Only			
Additional Surveys Required	Surveyed Corridor Description	Additional Surveys Completed	
Cultural Survey <input type="checkbox"/> Yes <input type="checkbox"/> No T & E Survey <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Report Documenting Survey:			
Sign-off (as appropriate)	Name (print)	Approval Signature	Conditions (See Attached)
Contractor Supt. or Env. Coordinator Lead Environmental Inspector Spread Supervisor Environmental Field Manager ROW Agent			<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
For BLM Project Manager or Compliance Contact Use Only			
Variance Approved: <input type="checkbox"/> Variance Denied: <input type="checkbox"/>		Date: _____	
Signature: _____			
For Compliance Manager and Monitor Use Only			
Variance Approved: _____ Variance Denied: _____		Date: _____	
Signature: _____			
Stipulations: _____			

Spread:	OPPC Variance Request No.:	
VARIANCE CONDITIONS		
Name:	Title:	Organization:
Conditions:		
Name:	Title:	Organization:
Conditions:		
Name:	Title:	Organization:
Conditions:		

Appendix E

Summary of Bureau of Land Management Mitigation and Monitoring

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
AIR QUALITY						
Construction	Cease (PM ₁₀ and PM _{2.5}) emission-producing construction activities during periods of NAAQS exceedances, which could include high wind events and inversions.	During construction	Halt applicable construction activities during NAAQS exceedances.			
	Treat actively disturbed areas of the Project Area prior to foreseeable and/or predictable high wind events with water or a dust palliative to reduce dust emissions.	During construction	Apply water or dust palliative prior to high wind events.			
	Pave, gravel, and/or apply dust palliative to all road surfaces on the Project Area.	During construction	Pave, gravel, or apply dust palliative to all roads.			
	Treat actively disturbed areas of the Project Area as soon as practicable (as discrete phases of construction on each area are completed) with a dust palliative.	During construction	Apply dust palliative to disturbed areas as soon as practicable.			
	Minimize land disturbance as much as practicable to accommodate project design and construction.	Prior to and during construction	Incorporate into construction documents and practices.			
	Cover cargo area of trucks when hauling soil.	During construction	Cover cargo area of trucks hauling soil.			
	Revegetate any disturbed land not used for the SSEP.	During construction and post-construction	Develop and implement a reclamation plan to reestablish vegetation communities (see Vegetation and Special Status Plant Species).			
	Implement dust-suppression mitigation measures as practicable on off-site roads within approximately 2 miles of the Project Area.	During construction	Develop and implement dust-suppression mitigation measures.			
Construction and operations	Create and use a mandatory carpool and/or vanpool system for employees to reduce travel on roads and to reduce vehicle emissions.	Prior to and during construction	Develop and implement a carpool and/or vanpool plan.			
CLIMATE CHANGE						
	Compost or use on-site as mulch some or all	During	Create an area for			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	cleared vegetation (as practicable) to reduce methane emissions in landfill.	construction	composting and regularly maintain it; send vegetation cleared from the site to a composting facility, or use cleared vegetation as on-site mulch.			
	Reduce engine idling during construction.	During construction	Incorporate this measure into the Worker Environmental Awareness Program (WEAP) and monitor vehicle use on-site.			
	Use biodiesel fuel in construction equipment, where practicable.	During construction	Develop and implement a plan to use biodiesel fuel where practicable; incorporate into the WEAP.			
	Use biodiesel fuel in SSEP operations equipment and vehicles, where practicable.	During operations	Determine which equipment and vehicles are able to use biodiesel fuel and implement its use.			
	Investigate participating in the EPA's SF ₆ emission reduction partnership for electric power systems and, at a minimum, consider the following: <ul style="list-style-type: none"> Annually inspect and estimate SF₆ emissions using an emissions inventory protocol. For equipment that will contain SF₆, purchase only new equipment that meets International Council on Large Electric Systems standards for leak rates. Implement SF₆ recovery and recycling. Ensure that only knowledgeable personnel handle SF₆. 	Prior to operations	Research the SF ₆ partnership and implement those EPA recommendations that are applicable and practicable.			
CULTURAL RESOURCES						
	Under the BLM's MOA, a treatment plan will be	Prior to	Incorporate cultural			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	developed that includes provisions for scientific data recovery, monitoring, long-term protection, worker education, and treatment of unanticipated discoveries.	construction	resource provisions from the MOA into the WEAP. Implement the data recovery (and other as applicable) provisions of the MOA.			
HAZARDOUS MATERIALS/HAZARDOUS AND SOLID WASTE						
Reduce occupational EMF exposures	Back electrical generators with iron, where practicable.	During construction	Incorporate iron backing into construction documents.			
	Shut down generators when work is being done nearby.	During construction and operations	Incorporate mandatory shut-down parameters into worker health and safety plans and training			
	Limit exposure time and proximity while generators are running.	During construction and operations	Incorporate exposure limits into worker health and safety plans and training.			
LIVESTOCK GRAZING						
	Post speed limits along access roads and enforce strict adherence to speed limits.	Prior to and during construction and during operations	Install signage and incorporate speed limit information into the carpool/vanpool system, the WEAP, and worker health and safety training. Monitor speeds.			
PALEONTOLOGY						
	Instruct construction workers responsible for surface-disturbing activities to recognize paleontological resources and to know the protocol to enact upon discovery.	Prior to construction	Incorporate into the WEAP.			
	Treat any discoveries in accordance with federal policy implementing the Paleontological Resources Protection Act of 2009.	Prior to and during construction	Incorporate into the WEAP.			
	Upon the discovery of paleontological resources, a paleontological resource use permit will be	Prior to and during construction	Incorporate into the WEAP; the			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	issued to a qualified paleontologist for the scientific collection and study of any fossils.		compliance monitoring team will follow up to provide a paleontologist and obtain the appropriate permit.			
RECREATION AND WILDERNESS CHARACTERISTICS						
Construction	Use traffic control measures (such as passive control and/or personnel) to reduce the risk of vehicle accidents and congestion and ensure continued access to public and private lands.	During construction	Develop and implement traffic control measures.			
Construction and operations	Maintenance of access roads to ensure continued availability of public lands for recreation uses.	During construction and operations	Perform regular maintenance on access roads.			
SOILS						
	Prepare an approved herbicide use plan, or combine it with an integrated vegetation management plan, to be incorporated into the plan of development.	Prior to construction and operations	Develop and implement herbicide use or integrated vegetation management plan.			
	In areas where some vegetation cover is acceptable from an operational standpoint, apply herbicides directly to target noxious weeds and invasive plant species.	During construction and operations	Incorporate this measure into the herbicide use or integrated vegetation management plan.			
	Avoid the use of herbicides that negatively affect biological soil crust organisms where practicable.	During construction and operations	Incorporate this measure into the herbicide use or integrated vegetation management plan.			
	Apply herbicides only to target vegetation and not across the entire soil surface.	During construction and operations	Incorporate this measure into the herbicide use or integrated vegetation management plan.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
TRANSPORTATION AND TRAFFIC						
	Install speed bumps or other appropriate speed control devices every 500–1,000 feet along the access road and install no parking signage along the sides of the access road. The speed bumps or other appropriate speed control devices would include standard dimensions as described in the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (FHWA 2009), or locally-appropriate manual.	Prior to construction	Install speed bumps and no parking signage.			
	Contractually obligate construction workers to use the SR-85/Riggs Road intersection as the only access point to the Project Area, except for limited use to access the well field and any unanticipated emergency use.	Prior to construction	Incorporate into worker contracts, the carpool/vanpool system, and WEAP.			
	Restore or fund the restoration of all public roads, easements, and rights-of-way damaged due to project-related construction activities to original or near-original condition in a timely manner, as directed by the BLM. Potential repairs and restoration of roads may be required at any time during the construction phase of the project.	During and post-construction	Incorporate restoration into construction documents; track damage to roads and implement repairs in a timely manner.			
	Place advance signing on SR-85 to alert northbound and southbound travelers of construction. Signs will be placed 1 mile south and north of the Riggs Road intersection. Contractors will follow the design standards mandated by the FHWA and adhere to the 2009 <i>Manual on Uniform Traffic Control Devices</i> .	Prior to construction	Install signage.			
	Install a locked gate at the entrance along Riggs Road to prohibit unwanted traffic on the well field access road.	Prior to construction	Install gate.			
VEGETATION AND SPECIAL-STATUS PLANT SPECIES						
	Develop a detailed reclamation plan to facilitate the prompt reestablishment of vegetation communities. The reclamation plan will include the following measures: <ul style="list-style-type: none"> Reclaim and revegetate all disturbed soils that will not be permanently stabilized by construction. Use plants salvaged on-site and/or native plant materials as revegetation materials. Salvage and replanting of woody native 	Prior to construction	Develop and implement a reclamation plan and include the listed measures.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	<p>plants and cacti is expected to be more effective than seeding.</p> <ul style="list-style-type: none"> • Salvage native plants from long-term use and temporary use areas for revegetation activities. • Control erosion on reclaimed lands prior to seeding using mulch, cover crops, or other approved measures. • Monitor erosion to identify any need for corrective action during vegetation establishment. • Create microtopographic or nurse structures (such as rocks and woody debris), as needed, to facilitate plant establishment, prevent erosion, or otherwise promote revegetation success. • Monitor vegetation establishment and diversity until desired species composition has been achieved. • Facilitate the recovery of biological soil crusts (BSCs) and vegetation by implementing the following measures: <ul style="list-style-type: none"> ○ <i>Salvage</i>: The objective of inoculation with BSCs is to restore site-appropriate BSC organisms and/or propagules. In short-term disturbance areas where excavation is required, to the extent feasible, the top inch of BSC should be removed and retained on-site in an active state. In long-term disturbance areas, BSCs should be salvaged to the extent feasible and stored in either an active or dormant state. Active BSCs will be used in reclamation of short-term disturbance areas on-site or off-site. ○ <i>Artificial soil stabilization</i>: The objective of soil stabilization is to prevent soil loss due to wind erosion and water erosion. In both temporary and long-term disturbance areas, soils would be stabilized with coarse litter and/or the installation of stabilizing vascular plants. As an additional measure, 					

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	<p>vertical installation of soil stabilizing materials, such as straw, would further enhance BSC recovery.</p> <ul style="list-style-type: none"> ○ <i>Site augmentation:</i> The objective of site augmentation is to restore the original microtopographic features of the site to the extent feasible, to provide establishment sites for native vegetation, to augment wildlife habitat, and to restore drainage patterns. In both temporary and long-term disturbance areas, vascular plant and BSC establishment and recovery would be enhanced by the creation of microtopographic features, such as variation in the soil surface, well-positioned rocks, piles of brush, or coarse woody debris. Methods could also include seeding with fast growing perennials to shade the soil. ○ <i>Inoculation:</i> Inoculation facilitates BSC development by distributing BSC organisms and/or propagules throughout the site. BSC inoculants can include salvaged pieces of BSCs, or crushed BSC materials applied dry or as a slurry. A commercial BSC inoculant can be used, but the BSC inoculant best suited to on-site conditions would be produced from locally salvaged BSC materials. BSC inoculant should be applied following installation of plant materials or propagules. Inoculant should be initially targeted at the soils under shrub canopies or microtopographic features, and spread to plant interspaces as time and materials allow. 					
	Salvage plants protected under Arizona Native Plant Law or use as on-site revegetation materials in temporary use areas.	During construction	Incorporate into the reclamation plan and implement.			
	Develop a noxious and invasive plant species treatment and control plan. The plan will include	Prior to construction	Develop and implement a			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	<p>the following actions:</p> <ul style="list-style-type: none"> • Treatment and control of noxious and invasive plant species will not include broadcast treatments. Noxious and invasive species treatments will avoid native vegetation areas whenever possible. • A list of target species for control will be obtained from the ADOT Roadside Development Section. • Specific protocols will be included for monitoring and treatment of target species infestations. • Target species infestations will be identified, marked, and treated within the Project Area to prevent the movement or spread of seeds or root fragments. • Wash all earth-moving equipment, hauling equipment, and other machinery with compressed air to remove any attached seeds, roots, and rhizomes prior to entering or leaving the construction site. • Verify that any soils or other materials imported for fill or restoration activities are certified as free of noxious and invasive plant species and soil pests. • Verify that any straw bales or other material used for stormwater management or other mitigation or restoration activities are Arizona Department of Agriculture-certified as weed free. 		noxious and invasive plant species treatment and control plan; incorporate the listed actions.			
	<p>In order to reduce the level of herbicide use and disturbance of vegetation, an adaptive management approach to vegetation treatment and removal will be developed and implemented. Prior to the notice to proceed for any phase of work, the Holder will work with BLM to determine how vegetation disturbance/removal and herbicide use may be practicably reduced in the upcoming project phase. In addition, the vegetation management plan will be reviewed annually to incorporate new BMPs that meet these same goals. Alternative methods for vegetation management may include the use of mulching, weed barriers, mowing, and selective</p>	Pre-construction, at least annually through life of project.	Development of adaptive management approach. Annual and by-phase review/revision of vegetation management plan.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	removal/treatment of undesirable species.					
VISUAL RESOURCES						
General	Diminish structural color contrasts (for example, transmission line towers, support structures for solar collectors, buildings, etc.) with a suitable BLM environmental color after a careful study of the site to identify appropriate colors and textures for materials. During the study, both summer and winter appearance will be considered, as well as seasons of peak visitor use. The choice of colors will be based on the appearance at typical viewing distances and will consider the entire landscape around the proposed development. The study will reference the BLM Standard Environmental Color Chart CC-001 and guidance when selecting colors. The simulations and field assessment will be used to determine the background color shades, and an appropriate color will then be selected. The effectiveness of this color will be field-assessed. A preliminary assessment has identified Slate Gray (5Y 6/1) as the recommended color.	Prior to and during construction	Perform an environmental color study to determine an appropriate BLM color. Incorporate into construction documents and implement use of the chosen color on appropriate structures and buildings.			
	Color-treat the backs of solar troughs/panels as needed to reduce visual contrast. One option is to use Acciona's method for accomplishing this contrast reduction using a tinted mirror product that provides added protective strength to the front panels to keep them from shattering.	During construction	Incorporate into construction documents; color-treat the backs of solar troughs/panels as needed.			
	Use landform grading, vegetation, or fencing in limited cases to interrupt the line of site from nearby KOPs at or near the same elevation of the project.	During construction	Incorporate into construction documents.			
	Minimize vegetation and ground disturbance near roads; maximize the use of existing clearings.	During construction	Incorporate into construction documents and the WEAP.			
	Strip, stockpile, and stabilize topsoil from the site before excavating earth for facility construction.	During construction	Incorporate into construction documents and the WEAP.			
	Bury all electrical collector lines and pipelines in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of	During construction	Incorporate into construction documents and the			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	surface disturbance).		WEAP.			
	Repeat and/or blend materials and surface treatments with the existing form, line, color, and texture of the landscape.	During construction	Incorporate into construction documents.			
	Select appropriately colored materials for structures, or apply appropriate stains/coatings to blend with the project's backdrop.	Prior to and during construction	An appropriate color will be selected through an environmental color study prior to construction; incorporate the color and other stains/coatings needed into construction documents.			
	Use materials, coatings, or paints having little or no reflectivity whenever possible.	During construction	Incorporate into construction documents.			
	Paint grouped structures the same color to reduce visual complexity and color contrast.	During construction	Incorporate into construction documents.			
	Paint or coat aboveground pipelines to match their surroundings (or use other equally effective treatments).	During construction	Incorporate into construction documents.			
	Deploy and operate mirrors/heliostats/trackers to avoid high-intensity light (glare) being reflected toward off-site ground receptors. Fencing with privacy slats or similar screening materials will be employed where off-site glare is unavoidable and effective results are favored.	Prior to and during construction and operations	Incorporate mirror/heliostat/tracker deployment into operation documents. Fencing materials and locations should be delineated in construction documents.			
	Nonspecular conductors and nonreflective coatings on insulators will be used for electricity transmission-distribution projects.	During construction	Incorporate into construction documents.			
	Minimize the use of non-necessary and/or nonsafety related signs and project construction signs. Nonglare materials and unobtrusive colors will be used for necessary signs. The reverse sides of signs and mounts should be painted or	During construction and operations	Incorporate into construction and operation documents.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	coated with the most suitable BLM color selected from the BLM Standard Environmental Color Chart to reduce color contrasts with the existing landscape; however, placement and design of any signs required by safety regulations must conform to regulatory requirements.					
	Commercial symbols or signs and associated lighting on buildings or other structures will be prohibited except where basic information is needed to identify the site (particularly for safety reasons).	During construction and operations	Incorporate into construction and operation documents.			
	Develop good housekeeping procedures to ensure the site is kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards. Design features regarding waste management will be applied.	Prior to and during construction and operations	Develop a good housekeeping plan.			
Night Sky	<p>Prepare a lighting plan to minimize night-sky impacts. The lighting plan will document how lighting will be designed and installed during facility construction and operations phases and will include the following measures:</p> <ul style="list-style-type: none"> • Lighting for facilities will not exceed the minimum number of lights and brightness required for safety and security, and will not cause excessive reflected glare. • Full cut-off luminaires will be used to minimize upward shining lighting. • Lights will be directed downward or toward the area to be illuminated. • Light fixtures will not spill light beyond the project boundary. • Lights in high illumination areas not occupied on a continuous basis will have switches, timer switches, or motion detectors so that the lights operate only when the area is occupied. • Where feasible, vehicle-mounted lights will be used for night maintenance activities. • Lighting will be kept off when not in use, wherever feasible, consistent with safety and security. • A process for promptly addressing and 	Prior to construction	Develop and implement a lighting plan with the listed measures.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	mitigating complaints about potential lighting impacts shall be included.					
Glint and Glare	Adequately screen the SSEP by existing vegetation or through the application of perimeter fencing to reduce contrast from glint and glare for KOPs with level views. Consideration for the height of the fence is necessary. Poly-vinyl coat security fencing the selected color of choice, or darken galvanized surfaces to reduce glint and glare.	During construction	Incorporate into the mitigation measures recommended in the glint and glare study.			
	Conduct a study prior to construction to assess and quantify potential glint and glare effects of the approved alternative and determine potential health, safety, and visual mitigation associated with glinting and glare effects. The study will be conducted by qualified individuals using appropriate and commonly accepted software and procedures.	Prior to construction	Perform a glint and glare study.			
	Treat other reflective surfaces for glint and glare as long as the treatment will not impact proper function of the equipment or structure.	During construction	Incorporate into the mitigation measures recommended in the glint and glare study.			
Construction	Hold a pre-construction meeting with BLM landscape architects or other designated visual/scenic resource specialists to coordinate the VRM mitigation strategy and confirm the compliance checking schedule and procedures. Final design and construction documents will be reviewed for completeness relevant to the visual mitigation elements. The construction documents will include, but not be limited to grading, drainage, revegetation, vegetation clearing and feathering plans, and will also demonstrate how VRM objectives will be met, monitored, and measured for conformance.	Prior to construction	Hold meeting and review final design and construction documents.			
	Integrate interim/final reclamation VRM mitigation elements early in the construction process, which may include treatments such as thinning and feathering vegetation along project edges, enhanced contour grading, salvaging landscape materials from within construction areas, defining special revegetation requirements, etc.	During construction	Incorporate into an interim reclamation plan.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	Reduce visual impacts during construction by clearly delineating construction boundaries; reducing impacts within interim reclamation areas by minimizing areas of surface disturbance within those boundaries; preserving vegetation to the greatest extent possible; using undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; contoured grading; controlling erosion; using fugitive dust suppression techniques; and restoring exposed soils to their original contour and vegetation.	During construction	Incorporate into an interim reclamation plan.			
	An interim reclamation plan will be in place prior to construction. Interim reclamation of the construction site will begin immediately after construction to reduce the likelihood of visual contrasts associated with erosion, invasive weed infestation, and the visibility of impacted areas as quickly as possible.	Prior to construction	Develop an interim reclamation plan.			
	Preserve existing rocks, vegetation, and drainage patterns to the maximum extent practicable, particularly within temporary use areas.	During construction	Incorporate into the interim reclamation plan.			
	Where feasible, brush-beat or mow, or use protective surface matting, rather than vegetation removal.	During construction	Incorporate into the interim reclamation plan.			
	For interim reclamation areas, mulch and spread slash from vegetation removal to cover fresh soil disturbances as part of the revegetation plan. Slash piles will not be left in sensitive viewing areas. Reclaim all areas of disturbed soil within interim reclamation areas by using weed-free native grasses, forbs, and shrubs or by using non-native species, if necessary to ensure successful revegetation.	During construction	Incorporate into the interim reclamation plan.			
	Reduce graveled-surface visual color contrast with approved color treatment practices; or, use gravel that is a color which will effectively and equivalently reduce contrasts.	During construction	Incorporate into the interim reclamation plan.			
	Use horizontal and vertical pipeline bending in place of cut-and-fill activities, where feasible.	During construction	Incorporate into the interim reclamation plan.			
	Vary the cut-and-fill pitch and round road-cut slopes to reduce contrasts in form and line; vary the slope to preserve specimen trees and nonhazardous rock outcroppings.	During construction	Incorporate into the interim reclamation plan.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	Segregate topsoil from cut-and fill activities and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. Topsoil piles will not be left in sensitive viewing areas.	During construction	Incorporate into the interim reclamation plan.			
	Avoid disposal of excess fill material downslope to avoid creating color contrast with existing vegetation and soils.	During construction	Incorporate into the interim reclamation plan.			
	Haul in or out excess cut-and-fill materials to minimize ground disturbance and impacts from fill piles.	During construction	Incorporate into the interim reclamation plan.			
	Bury communication and other local utility cables where feasible.	During construction	Incorporate into construction documents and the interim reclamation plan.			
	Paint or coat culvert ends to reduce color contrasts; alternatively, treat or darken galvanized ends to reduce glare.	During construction	Incorporate into the interim reclamation plan.			
	Except in areas designated for disturbance, paint or permanent discoloring agents will not be applied to rocks or vegetation to indicate surveyor construction activity limits.	Prior to and during construction	Incorporate into construction documents and the interim reclamation plan.			
	Remove all stakes and flagging equipment from the construction area and dispose of in an approved facility.	During construction	Incorporate into construction documents and the interim reclamation plan.			
Operations	Maintain revegetated surfaces (from interim reclamation and site decommissioning) until a self-sustaining stand of vegetation is re-established and visually adapted to the undisturbed surrounding vegetation. For new areas of disturbance (beyond the scope of this NEPA analysis), no new disturbance will be created during operations without completion of a VRM analysis and approval by the Authorized Officer.	During operations	Incorporate into operation or maintenance documents.			
	Undertake interim restoration as soon as possible after disturbances during the operating life of the project.	During operations	Incorporate into operation or maintenance documents.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	Maintenance activities (in arid environments) will include fugitive dust abatement and noxious weed control.	During operations	Incorporate into operation or maintenance documents.			
	Avoid blading existing forbs and grasses in ditches and adjacent to roads during road maintenance activities.	During operations	Incorporate into operation or maintenance documents.			
	Keep painted facilities in good repair and repaint when color fades or flakes increase visual contrast.	During operations	Incorporate into operation or maintenance documents.			
	As applicable, keep color-treated solar panel/trough backs in good repair; re-treat when color fades or flakes.	During operations	Incorporate into operation or maintenance documents.			
Post-operations decommissioning and site reclamation mitigation	A decommissioning and site reclamation plan, including visual impact design features, should be in place prior to construction; reclamation activities will be undertaken as soon as possible after disturbances occur and they will be maintained throughout the life of the project.	Prior to construction	Develop a decommissioning and site reclamation plan.			
	Review pre-development visual conditions (e.g., inventoried visual quality rating [A,B, and C] and integrity) and restore the visual elements of form, line, color, and texture to pre-development visual compatibility or to that of the surrounding landscape setting conditions, whichever achieves the greater visual quality and ecologically sound outcome.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Develop and implement a BLM-approved decommissioning and site reclamation plan. The plan will require that all aboveground and near-ground structures be removed. Some structures will only be removed to a level below the ground surface that will allow reclamation/restoration. Topsoil from all decommissioning activities will be salvaged and reapplied during final reclamation. The plan will also include provisions for monitoring and determining compliance with the project's visual mitigation and reclamation objectives.	Prior to construction	Incorporate into the decommissioning and site reclamation plan.			
	Contour soil borrow areas, cut-and-fill slopes, berms, water bars, and other disturbed areas to approximate naturally occurring slopes, thereby	During decommissioning and site	Incorporate into the decommissioning and site			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	avoiding form and line contrasts with the existing landscape. Contouring to a rough texture will trap seed and discourage off-road travel, thereby reducing associated visual impacts.	reclamation	reclamation plan.			
	Randomly scarify and roughen cut slopes to reduce texture contrasts with existing landscapes and aid in revegetation.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Consider a combination of seeding, planting of nursery stock, and transplanting of local vegetation within the proposed disturbance area. Consider staging of construction to enable direct transplanting. Where feasible, native vegetation will be used for revegetating, establishing a composition consistent with the form, line, color and texture of surrounding undisturbed landscape.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Reapply stockpiled topsoil to disturbed areas and revegetate the areas by using a mix of native species selected for visual compatibility with existing vegetation, where applicable, or if necessary to ensure successful revegetation, a mix of native and non-native species.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Remove or bury gravel and other surface treatments.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Restore rocks, brush, and forest debris, whenever possible, to approximate pre-existing visual conditions.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Feather edges of revegetated areas to reduce form and line contrasts with the existing landscapes.	During decommissioning and site reclamation	Incorporate into the decommissioning and site reclamation plan.			
	Prepare a BLM-approved decommissioning VRM monitoring and compliance plan to establish the schedule and terms for monitoring, and conditions and methods of measurement for determining compliance.	Prior to construction	Incorporate into the decommissioning and site reclamation plan.			
WATER RESOURCES						
General	To reduce the risk of unforeseen hydrologic impacts, a qualified geologist or hydrologist will periodically inspect downstream drainages for comparison with pre-development conditions	Prior to and during construction and operations	Perform a pre-construction and regular survey of downstream			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	(which will be documented prior to project construction). Operational changes to the storm water management system will be taken to better match pre-development hydrology if drainages are eroded by excessive quantities of water or appear to no longer receive water.		channel and vegetation conditions.			
WILDLIFE AND SPECIAL-STATUS SPECIES						
All wildlife	Design perimeter fencing of the SSEP to effectively exclude most wildlife, including burying the fence at least 1 foot underground to keep animals from burrowing under it. The main solar field will be monitored for wildlife activity, and an adaptive approach will be used for the site in the event that further exclusion methods should prove necessary based on the presence nuisance wildlife of hazards to sensitive wildlife species. Further measures may include reinforcing the first 3 feet off the ground with small diameter mesh and/or silt fencing to keep small animals from entering. All practicable measures will be used to exclude wildlife from the evaporation pond, particularly avian species, sensitive species, reptiles, and amphibians.	Prior to and during construction	Incorporate into construction plans.			
	To minimize the potential for avian collisions with and electrocutions from power lines, design and construction of all power lines should conform with the <i>Avian Protection Plan Guidelines</i> (APLIC and U.S. Fish and Wildlife Service 2005) and the <i>Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006</i> (APLIC 2006).	Prior to and during construction	Incorporate into construction plans.			
	Use a combination of fencing, netting, hazing, or other similarly effective measures to prevent wildlife exposure to potentially toxic constituents in evaporation pond water.	During construction and operations	Incorporate into construction and operation documents. Monitor wildlife access to ponds. Escalate access prevention methods to include alternate water disposal methods, if hazing is unsuccessful.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	To protect migratory birds and comply with the Migratory Treaty Bird Act, a qualified biologist will conduct nest clearance surveys prior to all surface-disturbing activities taking place inside the bird nesting season (February 15–September 15) (Corman and Wise-Gervais 2005). Protect all nests in place or relocate into suitable habitat.	Prior to construction	Conduct nest clearance survey prior to nesting season; protect or relocate nests.			
	To minimize the potential for wildlife mortality from vehicle collisions, post caution signs indicating the potential for mule deer, bighorn sheep, and desert tortoise crossings periodically along each access route. Particular locations for these signs will be at the beginning and end of each access road and where roads intersect xeroriparian washes. Speed bumps will also be installed to further limit the speed of vehicles, as described above under Transportation and Traffic.	Prior to construction	Post caution signs and install speed bumps (see Transportation and Traffic).			
	To decrease the impacts of habitat fragmentation, access roads perpendicular to the road alignment will remain unfenced to the maximum extent possible while still ensuring public safety.	During construction and operations	Incorporate into construction and operation documents.			
	To minimize the risk of wildlife mortality from vehicle collisions, periodically collect trash from project access roads.	During construction and operations	Regularly collect trash from access roads.			
	Project access roads will be monitored for wildlife mortality. An adaptive management approach may be used to implement additional measures appropriate to observed mortality above science-based thresholds.	During construction and operations	Monitor roads for road kill. If observed, develop thresholds for comparison and implement measures as needed.			
Sonoran Desert Tortoise	Survey the Project Area prior to ground-clearing construction activities (followed by the enclosure of the solar fields with chain-link fencing); relocate any identified tortoises outside the Project Area.	Prior to construction	Conduct a desert tortoise survey; relocate any identified tortoises.			
	Limit vehicle speeds to no more than 20 mph on all access roads and install speed limit signs. Post caution signs at the beginning of any access road and midway to the SSEP on each access road to indicate the potential presence of tortoises.	Prior to and during construction	Post speed limit (see Livestock Grazing) and caution signs; monitor vehicle speeds.			
	Provide training to all construction personnel who will be present before and during the ground-	Prior to construction	Incorporate into the WEAP.			

Table E1. Summary of Bureau of Land Management Mitigation and Monitoring

Resource	Mitigation Measures	Timing For Implementation	Compliance Action*	Verification of Compliance		
				Date	Initials	Remarks
	clearing and fencing of the site on how to reduce tortoise mortality (such as checking stationary vehicles for tortoises) and how to avoid disturbance of tortoises that are detected.					
	Adhere to Arizona Game and Fish Department <i>Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects</i> (Revised October 23, 2007) if any tortoises are encountered during construction and operations.	During construction and operations	Incorporate into construction and operation documents.			

* Where a compliance action requires that a mitigation measure be incorporated into planning and construction documents, the measure's implementation and maintenance are also (assumed) required compliance actions.

Literature Cited

APLIC. 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Washington, D.C.
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 Corman, T., and C. Wise-Gervais. 2005. *Arizona Breeding Bird Atlas*. University of New Mexico Press, Albuquerque.
 FHWA. 2009. *Manual on Uniform Traffic Control Devices*. December 16.

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Appendix F

Compliance Program Contacts

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