

CHAPTER 5

Mitigation Monitoring, Compliance, and Reporting Program

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STATE OF CALIFORNIA

Gavin Newsom, Governor

PUBLIC UTILITIES COMMISSION

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MITIGATION MONITORING, COMPLIANCE, AND REPORTING PROGRAM

LS Power Grid California, LLC – Gates 500 KV Dynamic Reactive Support Project (APPLICATION NO. A.21-02-018)

Introduction

This document describes the mitigation monitoring, compliance, and reporting program (MMCRP) for ensuring the effective implementation of the mitigation measures required for the California Public Utilities Commission (CPUC) approval of the LS Power Grid California, LLC's (LSPGC's) application to construct, operate and maintain the Gates 500 KV Dynamic Reactive Support Project (Project). The MMCRP includes all measures proposed by LSPGC also referred to as Applicant Proposed Measures (APMs), and all mitigation measures identified by the CPUC to reduce potentially significant impacts to less-than-significant levels. All APMs and mitigation measures are presented in **Table 5-1** provided at the end of this MMCRP.

If the Project is approved by the CPUC, this MMCRP would serve as a self-contained general reference for the Mitigation Monitoring, Compliance, and Reporting Program adopted by the CPUC for the Project. If and when the Project is approved by the Commission, the CPUC will compile the Final Plan from the Mitigation Monitoring Program in the Final Mitigated Negative Declaration (MND), as adopted.

LS Power Grid California, LLC – MMCRP Authority

The California Public Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service and the safety, practices, and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval are implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a reporting or monitoring program when it adopts a mitigated negative declaration for a project that could have potentially significant environmental effects. California Environmental Quality Act (CEQA) Guidelines Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring and reporting.

The purpose of a MMCRP is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The CPUC views the MMCRP as a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance, and reporting activities of the CPUC and any monitors it may designate.

The CPUC will address its responsibility under Public Resources Code Section 21081.6 when it takes action on LSPGC's application. If the CPUC approves the application, it also will adopt a MMCRP that includes the mitigation measures ultimately made conditions of approval by the CPUC. Because the CPUC must decide whether or not to approve the LSPGC application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decision and to consider mitigation for any identified significant environmental impacts.

If the CPUC approves LSPGC's application to construct and operate the Orchard Substation, LSPGC would be responsible for implementation of all of the Applicant Proposed Measures (APM) and all mitigation measures governing the construction, operation, and maintenance of the Project. The PG&E Interconnection facilities are analyzed in the IS/MND because, combined with the Orchard Substation Facility, they constitute the Project being evaluated under CEQA. However, the PG&E Interconnection Facilities are not part of this application proceeding and will not be authorized under this specific CPUC's decision. Though other federal, State, and local agencies would have permit and approval authority over some aspects of the Project, the CPUC would continue to act as the lead agency for monitoring compliance with all mitigation measures required by the adopted IS/MND. All approvals and permits obtained by LSPGC would be submitted to the CPUC prior to commencing the activity for which the permits and approvals were obtained.

In accordance with CEQA, the CPUC reviewed the impacts that would result from approval of the application. The activities considered include construct and operate the Orchard Substation which would consist of a +/- 848¹ million volt-amperes, reactive (MVAR) dynamic reactive device to be installed in a minimum of two, equally sized Static Synchronous Compensator² (STATCOM) units that would be independently connected to the existing Pacific Gas and Electric Company's (PG&E) Gates 500 kV Substation. Connection to the PG&E Gates Substation would require PG&E to construct and operate two single-circuit 500 kV interconnection transmission lines from the Gates Substation 500 kV bus to the Orchard Substation 500 kV take-off towers.

The CPUC review concluded that implementation of the Project would not result in any significant unmitigable impacts. All potential impacts would be mitigated to less-than-significant levels or would be less than significant. LSPGC has agreed to incorporate all the CPUC-recommended mitigation measures into the Project. The CPUC has included the stipulated

¹ The designation "±" indicates both leading (capacitive) and lagging (inductive) reactive power.

² A STATCOM device provides or absorbs reactive current to regulate voltage on electricity transmission networks.

mitigation measures as conditions of approval of the application and has circulated an IS/proposed MND for public review.

Because the CPUC must decide whether or not to approve the LSPGC application and because the application may cause either direct or reasonably foreseeable indirect effects on the environment, CEQA requires the CPUC to consider the potential environmental impacts that could occur as the result of its decisions and to consider mitigation for any identified significant environmental impacts.

The attached IS/MND presents and analyzes potential environmental impacts that would result from construction, operation, and maintenance of the Project, and recommends mitigation measures as appropriate. Based on the IS/MND, approval of the application would have no impact or less than significant impacts in the following areas:

- Aesthetics
- Agriculture and Forestry
- Air Quality
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise and Vibration
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal and Cultural Resources
- Utilities and Service Systems
- Wildfire

The IS/MND indicates that approval of the application would result in potentially significant impacts in the areas listed below, and so identifies APMs and mitigation measures that have been accepted by LSPGC to reduce the significance below established thresholds.

- Biological Resources
- Geology and Soils

Roles and Responsibilities

As the lead agency under CEQA, the CPUC is required to monitor the Project to ensure that the required mitigation measures and all APMs are implemented, as described in the IS/MND. The CPUC will be responsible for ensuring full compliance with the provisions of this MMCRP and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures and APMs required and relied upon by the CPUC are implemented and that mitigated environmental impacts are reduced to a less-than-significant level. The CPUC has the authority to halt any activity associated with the Project if the activity is determined to be a deviation from the approved Project or the adopted APMs and mitigation measures.

The CPUC may delegate duties and responsibilities for monitoring to other mitigation monitors or consultants as deemed necessary. The CPUC will ensure that the person(s) delegated any duties or responsibilities are qualified to monitor compliance.

The CPUC, along with its mitigation monitor, will ensure that any variance process, which will be designed specifically for the Project, or deviation from the procedures identified under the monitoring program is consistent with CEQA requirements; no Project variance will be approved by the CPUC if it creates new significant environmental impacts. As defined in this MMCRP, a variance should be strictly limited to minor Project changes that will not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A change to the Project that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA review is required. Any proposed deviation from the approved Project and adopted mitigation measures, including correction of such deviation, shall be reported immediately to the CPUC and the mitigation monitor assigned to the construction for their review and CPUC approval. In some cases, a variance also may require approval by a CEQA responsible agency.

Enforcement and Responsibility

The CPUC is responsible for enforcing the procedures for monitoring through the environmental monitor. The environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC. The CPUC has the authority to halt any construction, operation, or maintenance activity associated with the Project if the activity is determined to be a deviation from the approved Project or adopted APMs or mitigation measures. The CPUC may assign its authority to its environmental monitor.

Mitigation Compliance Responsibility

LSPGC is responsible for successfully implementing all of the adopted APMs and mitigation measures in this MMCRP. The MMCRP contains criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

LSPGC shall inform the CPUC and its mitigation monitor in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC in coordination with its mitigation monitor will assess whether alternative mitigation is appropriate and specify to LSPGC the subsequent actions required.

Dispute Resolution Process

The MMCRP is expected to reduce or eliminate potential disputes between CPUC staff and the applicant concerning implementation of the adopted mitigation measures. Issues should first be addressed informally at the field level between the CPUC Environmental Monitoring Team and the LSPGC Environmental Compliance Team with questions that may be raised to the LSPGC Project Manager or Construction Manager, as necessary. Should the issue not be resolved at the field level, the following procedure will be observed for dispute resolution between CPUC staff and the applicant:

- Disputes and complaints should be directed first to the CPUC's designated Project Manager for resolution. The Project Manager will attempt to resolve the dispute.
- Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the approved Project or MMCRP.

General Monitoring Procedures

Mitigation Monitor

Many of the monitoring procedures will be conducted during the construction phase of the Project. The CPUC and the mitigation monitor are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with LSPGC. To oversee the monitoring procedures and to ensure success, the mitigation monitor assigned to the construction must be on site during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The mitigation monitor is responsible for ensuring that all procedures specified in this MMCRP are followed.

Construction Personnel

A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures and APMs require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures included in this MMCRP, will be taken:

- LSPGC shall require all contractors to comply with the conditions of Project approval, including all applicable APMs and mitigation measures.
- One or more pre-construction meetings will be held to inform all and train construction personnel about the requirements of the MMCRP.
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all APMs and mitigation measures requiring their attention.

General Reporting Procedures

Site visits and specified monitoring procedures performed by other individuals will be reported to the mitigation monitor assigned to the construction. A monitoring record form will be submitted to the mitigation monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the mitigation monitor. A checklist will be developed and maintained by the mitigation monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The mitigation monitor will note any problems that may occur and take appropriate action to rectify the problems. LSPGC shall provide the CPUC with written quarterly reports of the Project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the Project. Quarterly reports shall be required as long as mitigation measures are applicable.

Public Access to Records

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CPUC on request. The CPUC and LSPGC will develop a filing and tracking system

Condition Effectiveness Review

In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a MMCRP to ensure compliance during project implementation (Pub. Res. Code §21081.6):

- The CPUC may conduct a comprehensive review of conditions which are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined above; and
- If in either review, the CPUC determines that any conditions are not adequately mitigating significant environmental impacts caused by the project, or that recent proven technological advances could provide more effective mitigation, then the CPUC may impose additional reasonable conditions to effectively mitigate these impacts.

These reviews will be conducted in a manner consistent with the CPUC's rules and practices.

Mitigation Monitoring, Compliance, and Reporting Program

The table attached to this MMCRP presents a compilation of the adopted APMs and mitigation measures in the IS/MND. The purpose of the table is to provide a single comprehensive list of impacts, mitigation measures, adopted APMs, monitoring and reporting requirements, and timing. LSPGC proposed APMs to minimize environmental impacts associated with implementation of the Project. In some instances, those APMs have been superseded by CPUC-recommended mitigation measures, as described in the IS/MND. The table below identifies only those APMs that have not been superseded and will be implemented as part of the Project.

**TABLE 5-1
TABLE OF MITIGATION MEASURES**

Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Applicant Proposed Measures				
Aesthetics	APM AE-1: All Orchard Substation Facilities sites would be maintained in a clean and orderly state. Construction staging areas would be sited away from public view where possible. Nighttime lighting would be directed away from residential areas and have shields to prevent light spillover effects. Upon completion of project construction, project staging and temporary work areas would be returned to pre-project conditions, including re-grading of the site and re-vegetation or re-paving of disturbed areas to match pre-existing contours and conditions.	Applicant or designated contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of the project.
Aesthetics	APM AE-2: Structures and equipment at the proposed Orchard Substation would be a non-reflective finish and neutral gray color.	Applicant or designated contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance.	During all phases of the project.
Agricultural Resources	APM AGR-1: Prior to commencing construction of the Orchard Substation Facilities, LSPGC must ensure that the Williamson Act contract for the 20-acre portion of the Project site impacted by the Project is: <ul style="list-style-type: none"> • Cancelled pursuant to Title 5, Division 1, Part 1, Chapter 7, Article 5 of the California Government Code; • Determined by Fresno County to be consistent with the Proposed Project; or Nullified via eminent domain or purchase in lieu of eminent domain pursuant to Title 5, Division 1, Part 1, Chapter 7, Article 6 of the California Government Code. 	Applicant to implement measure as described	LSPGC to provide evidence of compliance. CPUC mitigation monitor to inspect compliance.	Prior to construction.
Air Quality	APM AQ-1: The Orchard Substation Facilities portion of the Project would ensure that at least 32 percent of all diesel-powered equipment use (tracked as horse-power hours) during construction year 2022 is from equipment that meet USEPA-certified Tier 4 standards, the highest USEPA-certified tiered emission standards. Prior to the commencement of construction, LSPGC shall develop a diesel-powered equipment use hours tracking tool and procedure. The tracking tool shall be utilized by the Project to keep track of the certified engine tier and daily equipment use hours of all off-road diesel-powered equipment. If all diesel-powered equipment is certified Tier 4, the tracking tool would not be required; however, the Orchard Substation Facilities portion of the Project would be required to verify, record, and track the engine tier of all equipment. The tracking tool shall be maintained by the Project and tracking updates shall be submitted to the CPUC on a monthly basis to track the Project's compliance. Records of the engine tier of all equipment shall be kept onsite and made available to the CPUC upon request.	Applicant or designated contractors to implement measure as defined.	Applicant to maintain equipment list and provide upon request to CPUC along with tracking tool, as applicable. CPUC to mitigation monitor to inspect compliance.	Prior to and during all phases of construction activities at the Orchard Substation.
Air Quality	APM AQ-2: The Orchard Substation Facilities portion of the Project would comply with SJVAPCD Rule 8021 and would prepare and implement a Dust Control Plan for approval by the SJVAPCD Air Pollution Control Officer (APCO). The Dust Control Plan would include specific dust control measures as prescribed within Rule 8021, or as otherwise requested by the APCO. This plan would be submitted and approved prior to construction.	Applicant or designated contractors to implement measure as defined	CPUC mitigation monitor to inspect compliance.	Dust control plan to be prepared prior to, and implemented during construction.

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Air Quality	APM AQ-3: The Orchard Substation portion of the Project would comply with AB 203 and provide Valley fever awareness training to all construction workers, inspectors, monitors, and any other project personnel that are required to perform work in or near disturbed soils or dust emissions at the Orchard Substation Facilities site. The Valley fever awareness training materials would be prepared by a qualified professional, adapted from agency published trainings (CDPH, CDC, etc.), or otherwise produced by a qualified source. The Valley fever awareness training would be incorporated into the Project's overall Worker Environmental Awareness Program (WEAP) training.	Applicant or designated contractors to implement measure as defined	CPUC mitigation monitor to inspect compliance	Prior to and during construction.
Biological Resources	APM BIO-1: Speed of vehicles driving along proposed access roads and on the Project site during construction and O&M would be limited to 15 mph. In addition, construction and maintenance employees would be advised that care should be exercised when commuting to and from the Proposed Project area to reduce accidents and animal road mortality.	Applicant and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance	During all phases of the project.
Biological Resources	APM BIO-2 Conductors and ground wires would be spaced sufficiently apart so that raptors cannot contact two conductors or one conductor and a ground wire causing electrocution (APLIC 2006), or raptor protection would be installed subject to PG&E consent for application of such measures to its components of the Project, such as distribution lines.	Applicant and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance	During all phases of the project.
Biological Resources	APM BIO-3: Appropriate methods to reduce the risks of avian collisions would be incorporated into the Project's design (APLIC 2012), subject to PG&E consent for application of such measures to its components of the Project, such as distribution lines	Applicant and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance	Prior to construction.
Biological Resources	APM BIO-4: If feasible, the Applicant would avoid construction during the migratory bird nesting or breeding season. When it is not feasible to avoid construction during the nesting or breeding season, the Applicant would perform a survey in the area where the work is to occur. This survey would be performed to determine the presence or absence of nesting birds. If an active nest (i.e., containing eggs or young) is identified, a suitable construction buffer would be implemented to ensure that the nesting or breeding activities are not substantially adversely affected. If the nesting or breeding activities are being conducted by a federal- or state-listed species, the Applicant would consult with the USFWS and CDFW as necessary. Monitoring of the nest would continue until the birds have fledged or construction is no longer occurring on the site. If an inactive nest is identified, careful nest removal under the supervision and direction of qualified biologists would occur wherever feasible.	Applicant and its contractors to implement measure as defined.	Applicant's qualified biologist to coordinate with wildlife agencies (as applicable) regarding construction buffer. CPUC mitigation monitor to inspect compliance	Up to 30 days prior to construction and during all phases of construction activities.
Biological Resources	APM BIO-5: If a raptor nest is observed during pre-construction surveys, a qualified biologist would determine if it is active. If the nest is determined to be active, the biological monitor would monitor the nest to ensure that nesting or breeding activities are not substantially adversely affected. If the biological monitor determines that activities associated with the Project are disturbing or disrupting nesting or breeding activities, the monitor would make recommendations to reduce noise or disturbance in the vicinity of the nest.	Applicant and its contractors to implement measure as defined	CPUC mitigation monitor to inspect compliance	Up to 30 days prior to construction and during all phases of construction activities.

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Biological Resources	APM BIO-6: All excavated holes or trenches that are not be filled at the end of a workday would be covered, or a wildlife escape ramp would be installed to prevent the inadvertent entrapment of wildlife species.	Applicant and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance.	During all phases of the project.
Biological Resources	APM BIO-7: The use of outdoor lighting during construction and O&M of the Orchard Substation would be minimized whenever practicable.	Applicant and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance	During all phases of the project.
Biological Resources	APM BIO-8: A WEAP would be implemented to educate all construction and O&M workers on site-specific biological and non-biological resources and proper work practices to avoid harming wildlife during construction or O&M activities.	Applicant and its contractors to implement measure as defined.	CPUC mitigation monitor to inspect compliance	Immediately prior to construction. To be repeated for all new personnel.
Cultural and Tribal Cultural Resources	<p>APM CUL-1 (Development and Implementation of a Worker Environmental Awareness Program): LSPGC would design and implement a Worker Environmental Awareness Program (WEAP) that would be provided to all Project personnel who may encounter and/or alter historical resources or unique archaeological properties, including construction supervisors and field personnel. The WEAP would be submitted and approved by the CPUC prior to construction. No construction worker would be involved in ground disturbing activities without having participated in the WEAP. The WEAP would include, at a minimum:</p> <ul style="list-style-type: none"> • Training on how to identify potential cultural resources and human remains during the construction process; • A review of applicable local, state and federal ordinances, laws and regulations pertaining to historic preservation; • A discussion of procedures to be followed in the event that unanticipated cultural resources are discovered during implementation of the Proposed Project; • A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and LSPGC policies; and • A statement by the construction company or applicable employer agreeing to abide by the WEAP, LSPGC policies and other applicable laws and regulations. <p>The WEAP may be conducted in concert with other environmental or safety awareness and education programs for the Project, provided that the program elements pertaining to cultural resources are provided by a qualified archaeologist.</p>	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	Immediately prior to construction. To be repeated for all new personnel.
Cultural and Tribal Cultural Resources	APM CUL-2 (Cultural Resources Inventory): If proposed facilities and ground-disturbing activities move outside the previously surveyed footprint, those areas would be subjected to a cultural resources inventory to ensure that any newly identified cultural resources are avoided by ground disturbing activities.	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction

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<i>Cultural and Tribal Cultural Resources</i>	APM CUL-3 (Archaeological and Native American Monitoring): If subsurface prehistoric or ethnohistoric resources are encountered during construction, archaeological and Native American monitoring is recommended during all excavation associated with the Project. A qualified archaeologist and a member of the Dumna Wo-Wah Tribal Government shall be retained by LSPGC to monitor excavation associated with the Proposed Project to ensure that there is no impact to any significant unanticipated cultural resource. Prior to construction, LSPGC would consult with a designated representative of the Dumna Wo-Wah Tribal Government on the appropriate course of action to be taken should unanticipated cultural materials, and specifically human remains, be discovered during construction.	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction of the project.
<i>Cultural and Tribal Cultural Resources</i>	APM CUL-4 (Unanticipated Discovery of Potentially Significant Prehistoric and Historic Resources): In the event that previously unidentified cultural resources are uncovered during implementation of the Project, all work within 100 feet (30 meters) of the discovery would be halted and redirected to another location. LSPGC's qualified archaeologist would inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts would occur, the resource would be documented on State of California Department of Parks and Recreation cultural resource records and no further effort would be required. If the resource cannot be avoided and may be subject to further impact, LSPGC would evaluate the significance and CRHR eligibility of the resources and, in consultation with the CPUC, determine appropriate treatment measures. Preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Section 15126.4(b)(3), if it is demonstrated that resources cannot feasibly be avoided, LSPGC's qualified archaeologist, in consultation with the CPUC and, if the unearthed resource is prehistoric or Native American in nature, the Native American monitor, shall develop additional treatment measures, such as data recovery consistent with CEQA Guidelines Sections 15126.4(b)(3)(C)-(D). Archaeological materials recovered during any investigation shall be curated at an accredited curation facility.	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During all phases of the project.
<i>Cultural and Tribal Cultural Resources</i>	APM CUL-5 (Unanticipated Discovery of Human Remains): Avoidance and protection of inadvertent discoveries that contain human remains shall be the preferred protection strategy where feasible and otherwise managed pursuant to the standards of CEQA Guidelines Sections 15064.5(d) and (e). If human remains are discovered during construction or O&M activities, all work shall be diverted from the area of the discovery, and the CPUC shall be informed immediately. The Applicant shall contact the County Coroner to determine whether or not the remains are Native American. If the remains are determined to be Native American, the Coroner would contact the NAHC. The NAHC would then identify the person or persons it believes to be the most likely descendant of the deceased Native American, who in turn would make recommendations for the appropriate means of treating the human remains and any associated funerary objects. No part of the Project is located on federal land.	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction and project O&M

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Geology and Soils	<p>APM GEO-1: The following measures would be implemented during construction to minimize impacts from geological hazards and disturbance to soils:</p> <ul style="list-style-type: none"> • Keep vehicle and construction equipment within the limits of the Project and in approved construction work areas to reduce disturbance to topsoil; • Prior to grading, salvage topsoil to a depth of six inches or to actual depth if shallower (as identified in site-specific geotechnical investigation report) to avoid mixing of soil horizons; • Avoid construction in areas with saturated soils, whenever practical, to reduce impacts to soil structure and allow safe access. Similarly, avoid topsoil salvage in saturated soils to maintain soil structure; • Keep topsoil material on-site in the immediate vicinity of the temporary disturbance or at a nearby approved work area to be used in restoration of temporary disturbed areas. Temporary disturbance areas would be re-contoured following construction to match pre-construction grades. Areas would be allowed to re-vegetate naturally or would be reseeded with a native seed mix from a local source if necessary. On-site material storage would be sited and managed in accordance with all required permits and approvals; and <p>Keep vegetation removal and soil disturbance to a minimum and limited to only the areas needed for construction. Removed vegetation would be disposed of off-site to an appropriate licensed facility or can be chipped on-site to be used as mulch during restoration.</p>	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction.
Geology and Soils	<p>APM GEO-2: The structural requirements of the CBC are applicable to certain structural components of the Project, including the control enclosures. LSPGC and/or its contractors would design such structures to comply with such CBC standards and shall adhere to and implement all design recommendations and parameters established in the Project's Supplemental Geotechnical Engineering Report to be prepared and submitted to the CPUC upon completion.</p>	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	Submit supplemental geotechnical report to CPUC prior to construction and adhere to its requirements during construction.
Paleontology	<p>APM PALEO-1: In the unlikely event that fossils are unearthed during earthwork activities (i.e., an inadvertent discovery), earthwork within the vicinity of the discovery shall immediately halt, and a qualified paleontologist should evaluate the discovery. Earthwork shall be diverted until the significance of the fossil discovery can be assessed by the qualified paleontologist. If the fossil discovery is deemed significant, the fossil shall be recovered using appropriate recovery techniques based on the type, size, and mode of preservation of the unearthed fossil. Earthwork may resume in the area of the fossil discovery once the fossil has been recovered and the qualified paleontologist deems the site has been mitigated to the extent necessary. Additional earthwork following the fossil discovery may be monitored for paleontological resources on an as-needed basis, at the discretion of the qualified paleontologist.</p>	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction.
Paleontology	<p>APM PALEO-2: Recovered fossils shall be prepared, identified, catalogued, and stored in a recognized professional repository (e.g., the SDNHM, the University of California Museum of Paleontology) along with associated field notes, photographs, and compiled fossil locality data.</p>	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction.

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Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
	Donation of the fossils should be accompanied by financial support for initial specimen curation and storage. A final summary report should be completed that outlines the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils. This report shall be submitted to appropriate agencies, as well as to the designated repository.			
GHG	<p>APM GHG-1: The following measures shall be implemented to minimize greenhouse gas emissions from all construction sites:</p> <ul style="list-style-type: none"> • If suitable park-and-ride facilities are available in the Project vicinity, construction workers shall be encouraged to carpool to the job site. • Demolition debris shall be recycled for reuse to the extent feasible. • The contractor shall use line power instead of diesel generators at all construction sites where line power is available. <p>The contractor shall maintain construction equipment per manufacturing specifications.</p>	Applicant and its contractors to implement measure as described.	CPUC mitigation monitor to inspect compliance	During construction.
Hazardous Materials	<p>APM HAZ-1: A site-specific Spill Prevention, Control, and Countermeasure Plan (SPCCP) would be prepared prior to the initiation of construction. In the event of an accidental spill, the Project would be equipped with secondary containment that meets SPCCP Guidelines. The secondary containment would be sufficiently sized to accommodate accidental spills.</p>	Applicant or designated contractors to implement measure as defined.	Applicant and/or its contractor to track compliance. CPUC mitigation monitor to inspect compliance	SPCCP to be prepared prior to construction and implemented during all phases of the project.
Hazardous Materials	<p>APM HAZ-2: A Hazardous Materials Management Plan (HMMP) would be prepared and implemented for the Project. The plan would be prepared in accordance with relevant state and federal guidelines and regulations (e.g., Cal/OSHA). The plan would include the following information related to hazardous materials and waste, as applicable:</p> <ul style="list-style-type: none"> • A list of hazardous materials present on-site during construction and O&M to be updated as needed along with product Safety Data Sheets and other information regarding storage, application, transportation, and disposal requirements; • A Hazardous Materials Communication (i.e., HAZCOM) Plan; • Assignments and responsibilities of Project health and safety roles; • Standards for any secondary containment and countermeasures required for hazardous materials; • Spill response procedures based on product and quantity. The procedures would include materials to be used, location of such materials within the Project area, and disposal protocols; and • Protocols for the management, testing, reporting, and disposal of potentially contaminated soils or groundwater observed or discovered during construction. This would include termination of work within the area of suspected contamination sampling by an OSHA trained individual and testing at a certified laboratory. 	Applicant or designated contractors to implement measure as defined	Applicant and/or its contractor to track compliance. CPUC mitigation monitor to inspect compliance	HMMP to be prepared prior to construction and implemented during all phases of the project.

**TABLE 5-1
TABLE OF MITIGATION MEASURES**

Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
	<p>The Project would also be equipped with lead-acid batteries to provide backup power for monitoring, alarm, protective relaying, instrumentation and control, and emergency lighting during power outages. Secondary containment would be constructed around and under the battery racks, and the HMMP would address containment from a battery leak.</p> <p>The plan would be provided to the CPUC prior to construction for recordkeeping. Plan updates would be made and submitted as needed if construction activities change whereas the existing plan does not adequately address the Project.</p>			
Hazardous Materials	<p>APM HAZ-3: In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil shall be tested, and if contaminated above hazardous waste levels, shall be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil shall require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.</p>	Applicant or designated contractors to implement measure as defined	Applicant and its contractor to track compliance. CPUC mitigation monitor to inspect compliance	During construction
Hazardous Materials	<p>APM HAZ-4: LSPGC shall implement ongoing fire patrols during the fire season as defined each year by local, state, and federal fire agencies. These dates vary from year to year, generally occurring from late spring through dry winter periods. During Red Flag Warning events, as issued daily by the National Weather Service, all construction/maintenance activities shall cease, with an exception for transmission line testing, repairs, unfinished work, or other specific activities which may be allowed if the facility/equipment poses a greater fire risk if left in its current state. Although the Project area is not located within an area designated as a Very High or High Fire Hazard Severity Zone, LSPGC will prepare a Construction Fire Prevention Plan prior to construction.</p> <p>All construction/maintenance crews and inspectors shall be provided with radio and cellular telephone access that is operational in all work areas and access routes to allow for immediate reporting of fires. Communication pathways and equipment shall be tested and confirmed operational each day prior to initiating construction/maintenance activities at each work site. All fires shall be reported to the fire agencies with jurisdiction in the area immediately upon discovery of the ignition. All construction/maintenance personnel shall be trained in fire-safe actions, initial attack firefighting, and fire reporting. All construction/maintenance personnel shall be trained and equipped to extinguish small fires in order to prevent them from growing into more serious threats. All construction/maintenance personnel shall carry at all times a laminated card and be provided a hard hat sticker that list pertinent telephone numbers for reporting fires and defining immediate steps to take if a fire starts. Information on laminated contact cards and hard hat stickers shall be updated and redistributed to all construction/maintenance personnel and outdated cards and hard hat stickers shall be destroyed prior to the initiation of construction/maintenance activities on the day the information change goes into effect.</p> <p>Construction/maintenance personnel shall have fire suppression equipment on all construction vehicles. Construction/maintenance personnel shall be required to park vehicles away from</p>	Applicant or designated contractors to implement measure as defined	Applicant and its contractor to track compliance. CPUC mitigation monitor to inspect compliance	During construction

**TABLE 5-1
TABLE OF MITIGATION MEASURES**

Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
	dry vegetation. Water tanks, fire extinguishers, and/or water trucks shall be sited or available at active project sites for fire protection during construction. The Applicant shall coordinate with applicable local fire departments prior to construction/maintenance activities to determine the appropriate amounts of fire equipment to be carried on vehicles and, should a fire occur, to coordinate fire suppression activities.			
Water Quality	<p>APM WQ-1: Because the Project involves more than an acre of soil disturbance, a SWPPP would be prepared as required by the state NPDES General Permit for Discharges of Stormwater Associated with Construction Activity. This plan would be prepared in accordance with the Water Board guidelines and other applicable erosion and sediment control BMPs. Implementation of the plan would help stabilize disturbed areas and would reduce erosion and sedimentation. The SWPPP would designate BMPs that would be followed during and after construction of the Project, examples of which may include the following erosion-minimizing measures:</p> <ul style="list-style-type: none"> • Using drainage control structures (e.g., straw wattles or silt fencing) to direct surface runoff away from disturbed areas; • Strictly controlling vehicular traffic; • Implementing a dust-control program during construction; • Restricting access to sensitive areas; • Using vehicle mats in wet areas; or • Revegetating disturbed areas, where applicable, following construction. <p>In areas where soils are to be temporarily stockpiled, soils would be placed in a controlled area and would be managed with similar erosion control techniques. Where construction activities occur near a surface waterbody or drainage channel and drainage from these areas flows towards a waterbody or wetland, stockpiles would be placed at least 100 feet from the waterbody or would be properly contained (such as beaming or covering to minimize risk of sediment transport to the drainage). Mulching or other suitable stabilization measures would be used to protect exposed areas during and after construction activities. Erosion-control measures would be installed, as necessary, before any clearing during the wet season and before the onset of winter rains. Temporary measures, such as silt fences or wattles intended to minimize erosion from temporarily disturbed areas, would remain in place until disturbed areas have stabilized.</p>	Applicant and its contractors to implement measure as described.	Applicant and its contractors to track compliance. CPUC mitigation monitor to inspect compliance.	SWPPP to be prepared prior to construction and implemented during construction.
Water Quality	<p>APM WQ-2: Groundwater encountered during construction would be handled and discharged in accordance with all state and federal regulations including the following: Recovered groundwater would be contained on site and tested prior to discharge; If testing determines water is suitable for land application, discharge may be applied to flat, vegetated, upland areas, used for dust control, or used in other suitable construction operations (e.g., concrete mixing);</p>	Applicant and its contractors to implement measure as described.	Applicant and its contractors to track compliance. CPUC mitigation monitor to inspect compliance	During construction

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	<p>Land application would be made in a manner that discharge does not result in substantial erosion and would not be made directly to receiving waters or storm drains; Water unsuitable for land application would be disposed of at an appropriately permitted facility; and Discharge to surface waters or storm drains may occur only if permitted by the agency(ies) with jurisdiction over the resource (e.g., USACE [U.S. Army Corps of Engineers], RWQCB, and/or CDFW [California Department of Fish and Wildlife], as applicable).</p>			
Public Services	<p>APM PS-1: LSPGC would coordinate construction activities with local law enforcement and fire protection agencies. Emergency service providers would be notified of the timing, location, and duration of construction activities.</p>	<p>Applicant or designated contractors to implement measure as defined</p>	<p>Applicant and its contractors to track compliance. CPUC mitigation monitor to inspect compliance</p>	<p>During construction</p>
Traffic and Transportation	<p>APM TRA-1: LSPGC would prepare a Traffic Control Plan to describe measures to be taken to guide traffic (such as signs and workers directing traffic), safeguard construction workers, provide safe passage, and minimize traffic impacts. LSPGC would follow its standard safety practices as needed, including installing appropriate barriers between work zones and transportation facilities, posting adequate signs, and using proper construction techniques. LSPGC would follow the recommendations in this manual regarding basic standards for the safe movement of traffic on highways and streets in accordance with Section 21400 of the California Vehicle Code. If required for obtaining a local encroachment permit, LSPGC would establish a Traffic Management Plan (TMP) to address haul routes, timing of heavy equipment and building material deliveries, potential street and/or lane closures, signing, lighting, and traffic control device placement. Construction activities would be coordinated with local law enforcement and fire protection agencies. Emergency service providers would be notified as required by the local permit of the timing, location, and duration of construction activities.</p>	<p>Applicant or designated contractors to implement measure as defined</p>	<p>Applicant and its contractors to track compliance. CPUC mitigation monitor to inspect compliance</p>	<p>Prepare Traffic Control Plan prior to construction and implement plan during construction</p>
Public Utilities	<p>APM UTIL-1: The Applicant shall notify all utility companies with utilities located within or crossing the Orchard Substation Facilities' Rights-of-Way (ROW) to locate and mark existing underground utilities along the entire length of the Orchard Substation Facilities at least 14 days prior to construction. No subsurface work shall be conducted that would conflict with (i.e., directly impact or compromise the integrity of) a buried utility. In the event of a conflict, areas of subsurface excavation or pole installation shall be realigned vertically and/or horizontally, as appropriate, to avoid other utilities and provide adequate operational and safety buffering. In instances where separation between third-part utilities and underground excavations is less than 5 feet, the Applicant shall submit the intended construction methodology to the owner of the third-party utility for review and approval at least 30 days prior to construction. Construction methods shall be adjusted as necessary to assure that the integrity of existing utility lines is not compromised.</p>	<p>Applicant or designated contractors to implement measure as defined</p>	<p>CPUC mitigation monitor to inspect compliance</p>	<p>At minimum, 30-days prior to construction.</p>

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PG&E Construction Measures				
Biological Resources	AMM-1: Train employees and contractors in environmental regulations and guidelines to avoid or reduce effects on covered species.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	Prior to construction to be repeated for new personnel.
Biological Resources	AMM-2: Park vehicles and equipment on pavement, roads, or previously disturbed areas.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Biological Resources	AMM-3: Minimize or avoid new disturbance to the extent practicable.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Biological Resources	AMM-4: Do not exceed a speed limit of 15 mph on ROWs or unpaved roads within sensitive land cover types.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During all phases of the project.
Biological Resources	AMM-5: Do not dump trash, bring firearms or pets, or have open fires such as barbecues on worksites.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During all phases of the project.
Biological Resources	AMM-6: Do not refuel vehicles within 100 ft of a wetland or waterway unless a bermed and lined refueling area is constructed.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During all phases of the project.
Biological Resources	AMM-7: In areas of high risk of wildlife electrocution, use insulated jumper wires, animal guards for equipment insulator bushings, or construct lines to follow the Bird and Wildlife Protection Standards.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During all phases of the project.
Biological Resources and Wildfire	AMM-8: During fire season in SRAs, carry backpack water sprayers and shovels in all vehicles; during red flag conditions curtail welding, carry a large fire extinguisher on each fuel truck, and clear parking and storage areas of flammable materials.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Biological Resources and Water Quality	AMM-9: Implement erosion control measures where necessary to reduce erosion and sedimentation in wetlands or waterways.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Biological Resources	AMM-10: If more than 0.25 acre of grassland is disturbed, except in areas with vernal pools or covered plant species, restore to pre-existing conditions using a certified weed-free commercial seed mix.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.

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Biological Resources	AMM-11: If elderberry plants with one or more stems 1 inch at ground level are present, establish an exclusion zone of 20 ft. If impacts are unavoidable, follow additional measures in the VELB conservation plan and compliance brochure, which must be in all vehicles working within range of VELB.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Biological Resources	AMM- 12: San Joaquin kit fox. If San Joaquin kit fox dens are present, their disturbance and destruction will be avoided where possible. However, if dens are located within the proposed work area and cannot be avoided during construction, qualified biologists will determine if the dens are occupied. If unoccupied, the qualified biologist will remove these dens by hand excavating them in accordance with USFWS procedures (U.S. Fish and Wildlife Service 1999). Exclusion zones will be implemented following USFWS procedures (U.S. Fish and Wildlife Service 1999) or the latest USFWS procedures. The radius of these zones will follow current standards or will be as follows: Potential Den—50 feet; Known Den—100 feet; Natal or Pupping Den—to be determined on a case-by-case basis in coordination with USFWS and DFG. Pipes will be capped and exit ramps will also be installed in these areas to avoid direct mortality.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Biological Resources	BMP-1: Nesting Birds. If work is anticipated to occur within the nesting bird season (February–September), nesting birds, including raptors and other species protected under the Migratory Bird Treaty Act, may be impacted. If active nests are discovered, exclusionary measures and or designated avoidance buffers may be required and implemented according to the guidance in the PG&E Nesting Bird Management Plan. For nests discovered during construction, PG&E implements Work Procedure (WP) 2321 to identify and avoid impacts to nesting birds. WP 2321 generally requires assistance from the project biologist to determine if the construction action will impact the nest, and if so, identify whether alternative actions or monitoring can be implemented to avoid impacts. If active nests are observed during construction, crews must immediately alert the PG&E project biologist.	PG&E and its designated contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Geology and Soils	BMP-2: Generation of Spoil - Substation. All spoils generated from within PG&E substations require sampling and shall only be disposed of PG&E approved landfills listed in ERTC Attachment Guide, Section 4, Part 1: ENV-4000P-01-JA15 'Job Aid- PG&E Authorized Disposal & Recycling Facilities'. Spoils from within substations are prohibited from give-away. Copies of all manifests are required to be submitted to the Environmental Lead/Project Environmental Field Specialist (EFS).	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Geology and Soils	BMP-3: Addendum to the Geotechnical Investigation Report. Prior to final design and construction of the PG&E Interconnection Facilities, PG&E would prepare an addendum to the Geotechnical Investigation Report prepared by Kleinfelder, 2015. The addendum would acknowledge and describe Segments GV13 and GV14 of the Great Valley Fault System, and verify that the project design is sufficient to withstand movement and the associated shaking that could occur on the two fault segments.	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	Prior to construction.

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Hazardous Materials	<p>BMP-4: Asbestos. If any loadbearing structure (poles, towers, concrete pads, etc.) is to be removed, this Project will require asbestos testing and notification to the local Air District or California Air Resource Board (CARB). Notify the Environmental Field Specialist (EFS) at least 45 calendar days prior to work commencing. The Air District must be notified at least 10 working days prior to work (demolition) commencing, some districts require 14 days. If the construction start date changes, notify the EFS immediately as notification to the Air District may need to be resubmitted. EFS is responsible for obtaining any necessary permits from the air district prior to start of work.</p>	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	Notification to occur prior to construction, as described in measure.
Hazardous Materials	<p>BMP-5: Combustion Sources. If project or work involves the installation of a combustion source that may require a local air district permit, please work with the EFS and Air SME to evaluate compliance requirements. Combustion sources, depending on HP or MMBtu rating may require an Authority to Construct Permit prior to any installation activities and a Permit to Operate prior to operating.</p> <p>Typical Combustion Sources that require permits are:</p> <ul style="list-style-type: none"> • Engines ≤50 HP; • Boilers/Heaters that combust natural gas; and • Flares 	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	Prior to and during construction.
Air Quality	<p>BMP-6: Fugitive Dust General. Types work activities where water trucks or other dust abatement methods are typically required include: excavation, trenching, grading, sand blasting, and demolition. The crew shall not allow visible dust to pass beyond the project boundary. The crew shall abate dust by:</p> <ul style="list-style-type: none"> • Applying water to disturbed areas and to storage stockpiles; • Applying water in sufficient quantities to prevent dust plumes during activities such as clearing & grubbing, backfilling, trenching and other earth moving activities; • Limit vehicle speed to 15 miles per hour; • Load haul trucks with a freeboard (space between top of truck and load) of six inches or greater; • Cover the top of the haul truck load; • Clean-up track-out at least daily; and • The crew shall not generate dust in amounts that create a nuisance to wildlife or people, particularly where sensitive receptors such as schools and hospitals are located nearby or down-wind. <p>During inactive periods (e.g. after normal working hours, weekends, and holidays), the crew shall apply water or other approved material to form a visible crust on the soil and restrict vehicle access</p>	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.

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<i>Air Quality</i>	BMP-7: San Joaquin Valley AQMD >1 acre of soil disturbing activities. A Construction Notification Form must be submitted to the San Joaquin Valley APCD by the Environmental Lead/Project EFS at least 48 hours prior to commencing any earth moving activities.	PG&E to implement measures.	PG&E to track and maintain its own compliance.	At least 48 hours prior to construction earth moving activities.
<i>Hazardous Materials</i>	BMP-8: Hazardous Materials Business Plan: The Environmental Field Specialist (EFS) shall be notified 30 days prior to a threshold exceeding hazardous material/waste being placed on-site. Threshold limits are: 200 cubic feet of compressed gases (1000 cubic feet for simple asphyxiation or the release of pressure only; carbon dioxide), 500 pounds of solids, or 55 gallons of liquids for more than 30 non-consecutive days. The following jurisdictions require notification for any amount of hazardous material/waste: Counties: Nevada, San Bernardino (waste only), San Francisco, Santa Clara (call for city specific details), Santa Cruz, Yuba (waste only) Cities: Bakersfield (waste only), Berkeley, Healdsburg, Sebastopol, Petaluma, Santa Clara (call for city specific details). NOTE: The Project EFS will develop an HMBP if it is required.	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	Prior to or during construction; 30 days prior to a threshold exceeding event, as applicable.
<i>Hazardous Materials</i>	BMP-9: Hazardous Waste Management Hazardous Materials Storage: This project may involve the storage of hazardous materials and they must be managed according to regulations and best management practices. <ul style="list-style-type: none"> • All releases of hazardous materials must be immediately addressed. Maintain a spill kit onsite during the length of the project. Contact the project EFS for spills of hazardous materials/wastes to determine if agency notifications will be required and/or if additional resources are needed. • Hazardous materials, greater than 440 lbs and less than 1001 lbs can be transported on PG&E vehicles if the proper MOT shipping paper/MSDS accompanies the load. Contact the project EFS for additional guidance in these areas. • All hazardous materials containers must be marked correctly. • All hazardous materials signs must be displayed as required. • Non saturated oily rags (to be laundered) stored in non-combustible containers. • Emergency equipment such as fire extinguisher, eye wash, MSDS, etc. on-site. • Hazardous material containers must be in good condition. • All hazardous materials must be compatible with containers. • Hazardous materials containers are kept closed. If there is an unauthorized release of hazardous material, contact your Environmental Field Specialist immediately. For after-hours releases contact the Environmental Emergency Hotline at 1-800-874-4043.	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	During all phases of the project.
<i>Hazardous Materials</i>	BMP-10: Sulfur Hexafluoride (SF6) Gas Material/Waste Management. Before accessing any equipment that may contain SF6 gas byproduct waste, contact your local Environmental Field Specialist (EFS) at least two weeks in advance for assistance in arranging cleanup,	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	Prior to and/or during construction as described by measure.

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	<p>transportation and disposal. PSC will retrieve, package, label and transport SF6 byproducts. All SF6 waste that is removed from a Substation must have proper shipping papers which could include a remote waste shipping paper or a manifest (manifests require a temporary EPA ID number).</p> <ul style="list-style-type: none"> Substation personnel shall contact PSC to retrieve, package, label, and transport SF6 byproduct waste (i.e. fluorides of sulfur, metallic fluorides, etc.). All SF6 byproduct waste that is removed must have proper shipping papers, which could include a remote waste shipping paper or a manifest (manifests require a permanent or temporary EPA ID number). SF6 cylinder tracking and facility inventory shall be managed in accordance with Utility Procedure TD-3350P-001. <p>Advanced Specialty Gas (ASG) provides sole-source service in supplying, replacing, removal and recycling of SF6 in all facilities. ASG provides 24-hour service in response to events involving SF6 as well as delivery and removal of all SF6 cylinders. Contact information: https://www.advancedspecialtygases.com.</p>			
Hazardous Materials	<p>BMP-11: SPCC: The local/support EFS shall be notified 30 days prior to an SPCC triggering event occurs (modification to existing or new storage of >1,320 gallons of oil in containers >55 gallons). If the oil volume is contained in anything greater than 55 gallons, the SPCC Plan must be certified by an engineer. The SPCC containment must be installed prior to moving onsite of quantities requiring containment. The PM number must remain open until the local/support EFS notifies you that the plan is certified by an engineer, and any necessary modifications are complete.</p>	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	During all phases of the project.
Hazardous Materials	<p>BMP-12: Treated Wood: All new and used treated wood poles shall be managed in accordance with ENV-3000P-07 and stored on horizontal non-treated wood, concrete, or metal support beams raised off the ground to prevent decay and damage. As with any hazardous material, store treated wood away from storm drains.</p>	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	During all phases of the project.
Hazardous Materials	<p>BMP-13: Treated Wood Waste: All treated wood waste and debris (e.g., poles, cross-arms, saw dust, chips, etc.) shall be transported to the local PG&E or PG&E Contractor approved collection point and placed in designated bins. No poles may be left in place, unless formal authorization is obtained from applicable State and/or Federal agencies or a liability waiver is signed. Please refer to Job Aid ENV-4000P-07.</p>	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	During all phases of the project.
Hydrology and Water Quality	<p>BMP-14: Stormwater Measures: The Project EFS [Environmental Field Specialist] will provide the Stormwater Group with the following upon completion of the PER: Stormwater Needs Request Form, Soil Disturbance Calculation Spreadsheet, and a KMZ file showing the proposed work area. These documents shall be sent by the Project EFS, via email, to: stormwater@pge.com (if applicable).</p>	PG&E and its contractors to implement measure as defined.	PG&E to track and maintain its own compliance.	During construction.

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<i>Hydrology and Water Quality</i>	BMP-15: Stormwater Management A-ESCPs: Standard PG&E good housekeeping and stockpile management measures shall be implemented.	PG&E and its contractors to implement measure as defined.	PG&E to track and maintain its own compliance.	During all phases of the project.
<i>Hydrology and Water Quality</i>	BMP-16: Small Excavation: Construction Dewatering: Dewatering of trenches or excavations may be required. The Environmental Lead/Project EFS shall be notified at least 30 days in advance to ensure the appropriate dewatering methods are used, proper notifications are made, and, if necessary, applicable authorizations/permits are obtained. All dewatering activities must be coordinated through the Environmental Lead/Project EFS throughout the duration of the project.	PG&E to implement measures for PG&E Interconnection.	PG&E to track and maintain its own compliance.	Coordinate with EFS at least 30 days prior to dewatering, as applicable, prior to or during construction.
<i>Cultural and Tribal Cultural Resources</i>	<p>BMP-17: Inadvertent Cultural Resource Discovery. If cultural resources are observed during ground-disturbing activities, the following procedures will be followed:</p> <ul style="list-style-type: none"> • Stop all ground disturbing work within 100 feet of the discovery location to avoid impacts. • Immediately notify a PG&E Cultural Resource Specialist who will assess the discovery. • Leave the site or the artifact untouched. • Record the location of the resource, the circumstances that led to discovery, and the condition of the resource. • Do not publicly reveal the location of the resource and ensure the location is secured. • If unsure about the significance or antiquity of a discovery, photograph the artifact or feature with a scale (e.g., coin, tape measure, etc.) and send to a PG&E Cultural Resource Specialist for review. <p>Comprehensive guidance on the protocol related to an inadvertent discovery of potentially significant cultural resources on a job site can be found in Utility Standard ENV-8005S or by consulting a PG&E Cultural Resource Specialist.</p>	PG&E and its contractors to implement measure as defined.	PG&E to track and maintain its own compliance.	During construction.
<i>Cultural and Tribal Cultural Resources</i>	<p>BMP-18: Human Remains Protocol. Section 7050.5 of the California Health and Safety Code (CHSC) states that it is a misdemeanor to knowingly disturb a human burial. In keeping with the provisions provided in 7050.5 CHSC and Public Resource Code 5097.98, if human remains are encountered (or are suspected) during any project-related activity:</p> <ul style="list-style-type: none"> • Stop all work within 100 feet; • Immediately contact a PG&E Cultural Resource Specialist (CRS), who will notify the county coroner; • Secure location, but do not touch or remove remains and associated artifacts; • Do not remove associated spoils or pick through them; • Record the location and keep notes of all calls and events; and • Treat the find as confidential and do not publicly disclose the location. • Contact: 	PG&E and its contractors to implement measure as defined.	PG&E to track and maintain its own compliance.	During construction.

**TABLE 5-1
TABLE OF MITIGATION MEASURES**

Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
	<ul style="list-style-type: none"> Upon discovery of cultural resources or suspected human remains, contact the following individual immediately: CRS Name: [Contact to be provided prior to construction.] 			
Biological Resources	BMP-19: Bio Survey. A pre-activity survey (PAS) must be performed within 30 days of the construction start date to determine the presence of covered species. Results of the PAS will determine if any additional requirements, including monitoring and species specific AMMs, need to be implemented at these locations during construction. Any identified avoidance measures will be provided to construction crews. Avoidance measures must be adhered to during construction. Contact the PG&E project Biologist at least 30-days prior to start of any project activities, including mobilization and staging of equipment materials.	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	PAS to occur 30-days prior to construction start date; adhere to avoidance measures as described during construction.
Cultural and Tribal Cultural Resources	BMP-20: Worker Awareness Training. Prior to the start of any ground-disturbing activity, PG&E's Cultural Resource Specialist (CRS) shall prepare archeological, historical and paleontological resources sensitivity training materials for use during a Project-wide Worker Environmental Awareness Training (WEAP), or equivalent. The CRS shall make the training materials available for review and comment by the Native American group that expressed interest in the project. The WEAP shall be conducted by a qualified environmental trainer working under the supervision of the CRS. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of resources that could be encountered within the Project site and the procedures to be followed if they are found. PG&E and/or its contractor shall retain documentation demonstrating that all construction personnel attended the training prior to the start of work on the site, which documentation shall be made available upon request.	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	Prior to and during construction. WEAP training to be repeated for new construction personnel.
Paleontological Resources	BMP-21: Inadvertent Paleontological Resource Discovery. In the event that a paleontological resource is discovered during ground-disturbing activities, the foreman will temporarily divert the construction equipment around the find until it is assessed for scientific significance. A buffer of at least 50 feet around the discovery will be maintained for safety. The foreman will report the discovery to the site Supervisor and the PG&E point of contact given on the training brochure so that appropriate notifications can be issued. A temporary construction exclusion zone, consisting of lath and flagging tape in a 50-foot radius, will be erected around the discovery. Following fossil collection, the temporary construction exclusion zone will be removed and, once a professional paleontologist has assessed the situation, he/she will notify the site supervisor that construction activities may resume in the area of the find.	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.
Paleontological Resources	BMP-22: Paleontological Resource Monitoring, Salvage, and Treatment Protocols. In the event of a discovery during ground disturbance, the procedures described in APM PALEO-1 (and BMP-21) shall be followed; if significant paleontological resources are encountered, the qualified paleontologist (meeting the standards set by the Society of Vertebrate Paleontology	PG&E and its contractors to implement measure as described.	PG&E to track and maintain its own compliance.	During construction.

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Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
	<p>[SVP]) may recommend paleontological resource monitoring. In the event that monitoring is deemed necessary, the qualified paleontologist shall prepare and the project owner and/or their contractors shall implement, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP), the details of which would be decided based on the significance of the discovery. The plan shall be submitted to the CPUC Project Manager for review before continuing construction activities in the area of the find or as otherwise directed by the qualified paleontologist. This plan shall address specifics of monitoring and mitigation and comply with the recommendations of the SVP (2010), as follows.</p> <ul style="list-style-type: none"> • The qualified paleontologist shall identify, and the project owner and/or its contractor(s) shall retain, qualified paleontological resource monitors (qualified monitors) meeting the SVP standards (2010). • The qualified paleontologist and/or the qualified monitors under the direction of the qualified paleontologist shall conduct paleontological resources monitoring at a frequency and level to be decided based on the significance of the discovery. The PRMMP shall clearly set the parameters of the monitoring. • Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to evaluate and recover the fossil specimens, establishing a 50-foot buffer. • If construction or other Project personnel discover any potential fossils during construction, regardless of the depth of work or location and regardless of whether the site is being monitored, work at the discovery location shall cease in a 50-foot radius of the discovery until the qualified paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. • Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The qualified paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort and any curation of fossils. The project owner shall provide the daily logs to the CPUC Project Manager upon request, and shall provide the final report to the CPUC Project Manager upon completion. <p>The qualified paleontologist shall determine the significance of any fossils discovered, and shall determine the appropriate treatment for significant fossils in accordance with the SVP standards. This would be in line with APM PALEO-2, which gives specific details for fossil treatment.</p>			
CEQA MITIGATION MEASURES				
Biological Resources	<p>Mitigation Measure BIO-1: Protection of Kit Fox During Construction. Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox within 14 days prior to commencement of construction activities pursuant to the USFWS (1999) <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox</i>. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Areas that have been disked or cultivated within 12 months prior to the start of ground-disturbing activities are not considered suitable. Surveys need not be conducted for all areas of suitable habitat at one</p>	Applicant and their contractors to implement measure as described for construction of the Orchard Substation Facilities.	Applicant to track compliance; CPUC mitigation monitor to inspect compliance for Orchard Substation Facilities.	Prior to and during construction as defined in mitigation measure.

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TABLE OF MITIGATION MEASURES**

Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
	<p>time; they may be phased so that surveys occur within 14 days prior to disturbance within active portions of the site. If no potential San Joaquin kit fox dens are identified, no further mitigation is required. If potential kit fox dens are observed and avoidance is determined to be feasible (as defined in CEQA Guidelines §15364 consistent with the USFWS [1999] <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox</i>) by a qualified biologist in consultation with the Project owner and the County, buffer distances shall be established prior to construction activities.</p> <p>If avoidance of the potential dens is not feasible, the following measures shall be implemented to avoid potential adverse effects to the San Joaquin kit fox:</p> <p>If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent foxes from using them during construction.</p> <p>If the qualified biologist determines that a potential non-natal kit fox den may be active, an on-site passive relocation program shall be implemented with prior approval from the USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installation of one-way doors at burrow entrances, monitoring of the burrow for 72 hours to confirm usage has been discontinued, and excavation and collapse of the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the Project boundary, the dens shall be hand-excavated, as stated above for inactive dens.</p>			
Geology, Soils, and Seismicity	<p>Mitigation Measure GEO-1: Fault Study. In order to account for any effects related to strong seismic ground shaking due to the presence of the Great Valley thrust fault system, the required supplemental geotechnical report for the Orchard Substation Facilities shall account for the presence of the Great Valley thrust fault system. The report shall be prepared by a qualified geotechnical engineer licensed by the State of California. The report shall include an analysis of the presence of the Great Valley thrust fault system and how its proximity to the Project would inform the seismic design of the Project components.</p>	<p>The Applicant and/or their designated contractors to implement measures as described.</p>	<p>CPUC mitigation monitor to inspect compliance</p>	<p>Prior to construction.</p>
Paleontological Resources	<p>Mitigation Measure GEO-2: Worker Awareness Training and Monitoring Protocols. Prior to the start of any ground-disturbing activity, the project owner shall retain a qualified paleontologist (meeting the standards set by the Society of Vertebrate Paleontology [SVP]) to prepare paleontological resources sensitivity training materials for use during a Project-wide Worker Environmental Awareness Training (WEAP), or equivalent. The WEAP shall be conducted by a qualified environmental trainer working under the supervision of the qualified paleontologist. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project site and the procedures to be followed if they are found. The project owner and/or their contractors shall retain Documentation demonstrating that all construction personnel attended the training prior to the start of work on the site and shall provide the documentation to the CPUC Project Manager upon request.</p>	<p>The Applicant and their designated contractors to implement measures as described.</p>	<p>CPUC mitigation monitor to inspect compliance for Orchard Substation Facilities.</p>	<p>Prior to soil disturbing construction activities.</p>

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Resource Area	Applicant Proposed Measures (APMs) PG&E Avoidance and Impact Minimization Measures (AMMs), Best Management Practices (BMPs) and Mitigation Measures (MMs) Identified in the IS/MND	Implementing Actions	Monitoring/ Reporting Requirements	Timing
Paleontological Resources	<p>Mitigation Measure GEO-3: Paleontological Resource Monitoring, Salvage, and Treatment Protocols. In the event of a discovery during ground disturbance, the procedures described in APM PALEO-1 (and BMP-21) shall be followed; if significant paleontological resources are encountered, the qualified paleontologist (meeting the standards set by the Society of Vertebrate Paleontology [SVP]) may recommend paleontological resource monitoring. In the event that monitoring is deemed necessary, the qualified paleontologist shall prepare and the project owner and/or their contractors shall implement, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP), the details of which would be decided based on the significance of the discovery. The plan shall be submitted to the CPUC Project Manager for review and approval before continuing construction activities in the area of the find. This plan shall address specifics of monitoring and mitigation and comply with the recommendations of the SVP (2010), as follows.</p> <ul style="list-style-type: none"> • The qualified paleontologist shall identify, and the project owner and/or its contractor(s) shall retain, qualified paleontological resource monitors (qualified monitors) meeting the SVP standards (2010). • The qualified paleontologist and/or the qualified monitors under the direction of the qualified paleontologist shall conduct paleontological resources monitoring at a frequency and level to be decided based on the significance of the discovery. The PRMMP shall clearly set the parameters of the monitoring. • Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to evaluate and recover the fossil specimens, establishing a 50-foot buffer. • If construction or other Project personnel discover any potential fossils during construction, regardless of the depth of work or location and regardless of whether the site is being monitored, work at the discovery location shall cease in a 50-foot radius of the discovery until the qualified paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. • Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The qualified paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort and any curation of fossils. The project owner shall provide the daily logs to the CPUC Project Manager upon request, and shall provide the final report to the CPUC Project Manager upon completion. • The qualified paleontologist shall determine the significance of any fossils discovered, and shall determine the appropriate treatment for significant fossils in accordance with the SVP standards. This would be in line with APM PALEO-2, which gives specific details for fossil treatment. 	The Applicant and their designated contractors to implement measures as described for the construction of the Orchard Substation Facilities.	CPUC mitigation monitor to inspect compliance for the Orchard Substation Facilities	During Construction.

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