6. Mitigation Monitoring and Reporting Plan

Pursuant to Public Resources Code Section 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines, when an agency finds that mitigation measures have been required in, or incorporated into, a project to avoid or substantially lessen its significant environmental effects, the agency must adopt a program for monitoring or reporting on such mitigation measures. The purpose of this Mitigation Monitoring and Reporting Plan (MMRP) is to ensure effective implementation of the applicant proposed measures (APMs) and mitigation measures required by the California Public Utilities Commission (CPUC) that Pacific Gas and Electric Company (the applicant) has agreed to implement as part of the proposed Sanger Substation Expansion Project (proposed project). The MMRP, which is outlined in Table 6-1, includes:

- Each significant impact identified in the Initial Study/Mitigated Negative Declaration (IS/MND)
- APMs and mitigation measures that the applicant is required to implement as part of the proposed project to reduce significant impacts to less than significant
- Monitoring requirements
- Timing for implementation of APMs and mitigation measures
- Indicators for determining the effectiveness of implementation of APMs and mitigation measures
- Reporting requirements

This MMRP is a draft program. The CPUC will formalize this MMRP for inclusion in the Final IS/MND, prior to construction, to include specific protocols that will be followed prior to, during, and after construction by the CPUC's and the applicant's designated environmental monitors and project staff (as described in Section 6.3, "Final Mitigation Monitoring and Reporting Plan"). The Final MMRP will include, but not be limited to, protocols and timelines for the following topics:

- Agency Jurisdiction
- Roles/Responsibilities
- Communication
- Compliance Verification and Reporting
- Project Changes, including Minor Project Refinements
- Dispute Resolution

The CPUC's designated Project Manager and environmental monitor (or monitors) will monitor the proposed project to verify full compliance with each APM and mitigation measure. The designated Project Manager will verify all compliance documentation required by APMs and mitigation measures, and the designated environmental monitor will regularly visit the proposed project to verify APMs and mitigation measures are being implemented as described in the MMRP.

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
Aesthetics					
APM AES-2: New source of substantial light or glare avoidance. Security lighting at the substation will be directed on-site and will be hooded to reduce potential visibility from off-site locations.	CPUC verifies that PG&E installs new light sources which are to be directed on-site.	New sources of substantial light or glare will be directed on-site.	Post construction	Expanded substation	PG&E, CPUC
APM AES-3: Structures and equipment at the expanded substation will be a non-reflective finish and neutral gray color.	CPUC verifies that PG&E installs non-reflective and neutral gray structures and equipment.	The visual effects of glare are minimized by using non-reflective and neutral gray color structures and equipment.	Post construction	Expanded substation	PG&E, CPUC
MM AES-1 (supplements APM AES-2): Lighting utilized for night-time construction and for security during construction shall be shielded and oriented away from sensitive receptors.	CPUC verifies that PG&E light sources are shielded and are directed away from sensitive receptors.	All lighting for night-time construction or security is shielded and directed away from sensitive receptors.	During construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
MM AES-2 (supplements APM AES-3): All conductor used for the proposed project shall be non-specular.	CPUC verifies that PG&E installs non-specular conductors.	The visual effects of glare are minimized by using non-specular conductors.	During construction	All conductors	PG&E, CPUC
Agriculture and Forestry Resources					
APM AGR-1: Agriculture impacts avoidance and compensation. To avoid potential impacts on agriculture, PG&E will work with farmers to conduct its work between their harvest and planting periods where and whenever possible. In areas containing permanent crops that must be removed and replaced to gain access to pole sites for construction purposes, PG&E will provide compensation to farmers and/or landowners in accordance with PG&E's Property Damage Settlement Guidelines. Within 6 months of completion of project construction, PG&E shall also repair, replace or provide compensation for damage to fences, irrigation facilities and other such agricultural infrastructure. Access across active crop areas will be negotiated with the farmers and/ or owners in advance of any construction activities.	CPUC verifies that PG&E schedules work between harvest and planting periods where and whenever possible. CPUC verifies that PG&E compensates farmers and/or landowners when permanent crops must be removed or replaced in accordance with PG&E's Property Damage Settlement Guidelines. CPUC verifies that PG&E repairs, replaces, or compensates for any agricultural infrastructure damaged by construction activities.	Minimization of agriculture impacts. Any agricultural infrastructure damaged by construction activities is replaced or restored to its pre-construction condition.	Prior to construction – negotiate with farmers During construction – minimize disturbance to agricultural operations Within 6 months post construction – repair, replace, or compensate for damaged infrastructure	All areas where crops would be impacted, including access roads.	PG&E, CPUC
MM AGR-1: Farmland Construction Impact Mitigation (supplements APM AGR-1). PG&E shall implement the following measures for temporarily disturbed Farmland: • The applicant shall survey agricultural fields prior to construction and return all temporary disturbance areas to pre-construction conditions (i.e, meeting the definition of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency) after the completion of construction, except that crops will not be replanted. • If topsoil is removed from an area to accommodate temporary construction activities, it shall be restored to preconstruction conditions within two months of the completion of construction, except that crops will not be replanted by PG&E.	CPUC verifies that PG&E completes pre-construction surveys of Farmland and restores topsoil.	Pre-construction conditions are recorded and topsoil is restored within two months of construction completion.	Prior to construction – conduct surveys Post construction – restoration	All areas where crops would be impacted, including access roads.	PG&E, CPUC

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Air Quality					
APM AIR-1: Fugitive dust emissions minimization. Pursuant to SJVAPCD Regulation VIII, a Dust Control Plan will be prepared and submitted to SJVAPCD for approval within the required timeframe prior to commencing construction activities. Based on the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015b), the following are examples of fugitive dust control measures that may be included in the Dust Control Plan to minimize dust emissions: • Apply water to unpaved surfaces and areas. • Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas. • Limit or reduce vehicle speed on unpaved roads and traffic areas. • Maintain areas in a stabilized condition by restricting vehicle access. • Install wind barriers. • During high winds, cease outdoor activities that disturb the soil. • Keep bulk materials sufficiently wet when handling. • Store and handle loose materials that could create dust in a three-sided structure. • When storing bulk materials, apply water to the surface or cover the storage pile with a tarp. • Don't overload haul trucks. Overloaded trucks are likely to spill bulk materials. • Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions. • Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site. • Prevent trackout by installing a trackout control device. • Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately. • Monitor dust-generating activities and implement appropriate measures for maximum dust control.	CPUC verifies that PG&E meets SJVAPCD Regulation VIII requirements and follows the example dust control measures described in the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts.	Fugitive dust has been controlled inside the project area and on unpaved access roads.	During construction	Applies to all unpaved construction areas, stockpiles of earthen materials, and all areas where earth-moving or excavations activities occur.	PG&E, CPUC, SJVAPCD
Biological Resources					
APM BIO-9: Pets and firearms. No pets or firearms are permitted within the project area.	CPUC verifies that PG&E prohibits pets and firearms within the project area.	No pets or firearms are permitted within the project area.	During construction	Entire project area	PG&E, CPUC
APM BIO-11: Backfilling. Prior to backfilling or placement of structures, all excavation sites (e.g., holes excavated for pole butts, trenches, etc.) will be inspected to ensure no small vertebrates have been entrapped. All excavations with a potential for entrapment of wildlife will be backfilled or fully covered at the end of the work day. Alternatively, holes or trenches will include one or more escape ramps constructed of earth fill or wooden planks no less than 10 inches wide and reaching to bottom of trench at the close of each working day.	CPUC verifies that PG&E implements activities to minimize wildlife entrapment at the close of each day.	Excavation sites are covered at the end of each day or escape ramps are in place. Prior to backfilling, all excavations will be inspected to ensure no wildlife have been entrapped.	During construction	All project areas containing excavation sites	PG&E, CPUC

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
MM BIO-1: Biological Resources Worker Environmental Awareness Program. The applicant shall develop a Worker Environmental Awareness Program (WEAP). Prior to the start of construction, all construction crew members and contractors shall be required to attend the WEAP training presented by a CPUC-approved, qualified biologist. All construction crew members and contractors who attend the training shall sign a form indicating that they attended the training and understood the information. Follow-up training shall be conducted as needed; new workers shall attend WEAP training prior to beginning at the work site. A record of all trained personnel shall be kept on site, and a sticker indicating training completion shall be worn on all worker hard hats. The WEAP training shall include a review of the special status species and other sensitive resources (e.g., nesting birds) that could exist in the project area, the locations where sensitive biological resources do or may occur, the limits of the work area, applicable laws and regulations, penalties for non-compliance, and APMs and mitigation measures to be implemented for avoidance of these sensitive resources. Additionally, personnel shall be trained for situations where it is necessary to contact a qualified biologist (e.g., should any sensitive biological resources such as an active nest be found during construction). If sensitive resources are found, the qualified biologist shall provide guidelines for the personnel to avoid impacts on them. All WEAP participants shall receive a brochure that outlines all this information including contact information for the appropriate environmental personnel.	An environmental training program is prepared by PG&E, approved by CPUC, and implemented by PG&E; CPUC reviews the training logs and sign-in sheets provided by PG&E and verifies that stickers indicating training completion are worn on worker hard hats; CPUC verifies that PG&E provides training to all construction personnel.	All new construction personnel are adequately trained prior to the start of construction to avoid and/or minimize impacts on special status species during project construction.	Prior to construction – submit training program to CPUC for review and conduct training During construction – monitor continued training	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
MM BIO-2: Pre-activity surveys for sensitive species. A CPUC-approved qualified biologist shall conduct a pre-activity survey for all activities occurring near where sensitive resources may be found within 7 days prior to work commencing. If there is no work in an area for 7 days, it shall be considered a new work area if construction begins again. The biologist shall survey all suitable habitat for sensitive species within 100 feet of the activities (see MM BIO-4, MM BIO-6, or MM BIO-7 for additional nesting bird procedures). If any species listed by the state or federal endangered species acts or protected by other statutes, or their signs, are found, the CPUC and the appropriate wildlife agencies shall be notified within 48 hours to confirm appropriate avoidance measures. If it is determined that construction activity cannot avoid areas where sensitive biological resources are present, the qualified biologist shall coordinate with the CPUC, CDFW, and/or USFWS, as necessary. If a potential San Joaquin kit fox den is found then a minimum buffer of 50 feet shall be implemented. For a known den, the buffer shall be 100 feet and for a natal den the avoidance buffer shall be determined on a case-by-case basis in coordination with CDFW and USFWS. If dens cannot be avoided by these distances, a CPUC-qualified biologist shall determine occupation following the procedures outlined in USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to and During Ground Disturbance (USFWS 2011) and consult and coordinate with CDFW and USFWS.	Pre-activity survey report summarizing the results is prepared by PG&E and reviewed by CPUC and as appropriate by CDFW and/or USFWS before start of construction; CPUC verifies that PG&E implements any avoidance measures recommended by CPUC, CDFW, and/or USFWS.	All activity areas where sensitive resources may be found are surveyed prior to construction activities. Avoidance measures are implemented.	Prior to construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC, CDFW, USFWS

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MM BIO-3: Biological Monitoring. A CPUC-approved qualified biological monitor shall develop an appropriate schedule of monitoring to ensure that disturbance is minimized to sensitive resources to the greatest extent possible during project activities. The schedule shall ensure that a CPUC-approved qualified biological monitor (1.) visits the project area regularly (at a minimum of every 7 days); (2.) is present to monitor all ground disturbing activities, such as grading and trenching; and (3.) is present to monitor any observed special status species (observed sign or individual) that may be disturbed by project activities. Biological monitors shall be familiar with San Joaquin kit fox and burrowing owl. Avian biologists present during nesting bird season may act as the biological monitor if qualified. The biological monitor shall be responsible for ensuring that impacts on special status species, their associated habitat, and/or sensitive resources are avoided to the fullest extent possible, and the monitor shall have full authority to halt construction if the monitor observes actual or potential disturbances to sensitive resources. At a minimum of once per 7 days, the monitor shall survey all project components near where construction activities may occur in the next 7 days, as well as the irrigation ditch area. Where appropriate, monitors shall flag the boundaries of areas where activities need to be restricted to protect special status species. If a special status species is present in the project area while construction activities are occurring, the restricted areas shall be monitored to ensure their protection during construction.	CPUC verifies that a CPUC-approved biological monitor is present during ground disturbing activities, has conducted periodic surveys, and has flagged sensitive areas.	A monitor is present at least once every 7 days. Periodic surveys and flagging of sensitive areas. Avoidance of impacts to fullest extent feasible.	During construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
MM BIO-4: Mitigation for nesting birds (Supersedes APM BIO-14). The applicant shall implement the measures below in all work areas where any construction-related activities are conducted during the nesting bird season (February 1 to September 15) for all species except Swainson's hawk and white-tailed kite (see MM BIO-7), and burrowing owl (see MM BIO-6). Nesting Bird Survey Requirements. If work is scheduled to occur during nesting bird season, then the following provisions shall be employed: • A CPUC-approved qualified avian biologist shall conduct surveys for nesting birds within 7 days prior to the start of any construction-related activities. Areas shall be re-surveyed every 7 days while construction activities are occurring. If there is no work in an area for 7 days, it shall be considered a new work area if construction resumes. In addition, a CPUC-approved qualified monitor shall conduct pre-construction clearance sweeps for nesting birds at all access, staging and, work areas where suitable habitat is present within approximately 24 hours of construction activities each day during the nesting season. • Surveys shall be conducted with the appropriate buffer, duration, level of effort, and timing based on level of construction disturbance, time of day, and environmental factors. Surveys shall be conducted within a 500 foot buffer of active work areas for raptors and a 250 foot buffer for non-raptors, at a minimum. • Surveys shall be conducted at a minimum between February 1 and September 15; however, the survey season may need to begin earlier or end later depending on species and weather conditions. • Survey results shall be provided to the CPUC each week. Avoid Impacts on Nesting Birds. • When a nest of any avian or raptor species is located within 500 feet of a construction site, a CPUC-approved qualified avian biologist shall determine whether the nest is active. A nest shall be defined as active once a bird begins	Nesting bird surveys and nest monitoring are performed by PG&E and results are reviewed by CPUC weekly and provided to CDFW and USFWS monthly. CPUC verifies that PG&E establishes proper buffers around nesting birds, follows the specified process for buffer reductions, and implements collision-reducing techniques for transmission line. CPUC approves buffer reduction requests from PG&E for special status species after review by USFWS and CDFW.	Nesting bird survey reports document that all requirements are fulfilled. Buffers are established and maintained. Nesting bird database includes all necessary information. Construction avoids project related "take" and is compliant with applicable laws protecting birds.	Prior to construction – conduct surveys During construction – conduct monitoring	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC, CDFW, USFWS

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
nest construction or when a raptor begins "nest decoration." An inactive nest is defined as a nest that has been abandoned by the adult bird or once fledglings are no longer dependent on the nest site or parental care. • If the nest is active, then the qualified biologist shall implement an exclusionary buffer to prevent construction activities from occurring within a specified distance from the active nest. For active raptor nests located more than 500 feet from the nearest work site, and non-raptor active nests located more than 250 feet from the nearest work site, no additional measures shall be implemented. A minimum standard buffer of 500 feet for an active raptor nest or 250 feet for an active non-raptor nest, as recommended by CDFW (Bahm pers. comm. 2016), shall be implemented when construction activities are occurring. Buffers shall not apply to construction-related traffic using existing roads that are not limited to project-specific use (i.e., county roads, highways, etc.). • If any active nest of a species listed by the state or federal endangered species acts or fully protected species (other than those specified MM BIO-7) is found, then the minimum standard buffer shall be implemented and the CPUC and the appropriate wildlife agencies shall be notified immediately (within 48 hours). • As appropriate, nest deterrent strategies may be used to prevent birds from nesting in construction equipment or staged materials. This includes covering equipment with tarps or covering small holes. Bird netting may not be used due to risk of entanglement. • If construction requires removal of a structure or tree that contains a known or historic nest, then removal of that structure must occur when the nest is determined to be inactive and, if feasible, outside of nesting season. • PG&E shall adhere to recommendations published by APLIC's Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012), as feasible. Monitoring and Reporting. Nest locations and exclusion buffers shall be mapped (using a geographic information system [GIS]) for all identified nests. The information shall be maintained in a database; shall be provided to the CPUC weekly and to USFWS and CDFW monthly; and shall include the following information: • Date, time, and length of observation period • Status (active or inactive) • Species • Nest location, including nest height • Behavioral observations • Site conditions, including construction activities • Nest exposure • Estimated date of nest establishment • Estimated fledge date • Number of eggs or hatchlings, if observed • Buffer size implemented Nests protected by a standard buffer shall be observed by a CPUC-approved qualified avian biologist at a frequency and length of time the avian biologist deems necessary to ensure activities are not causing disturbance to the nest (minimum of once a week during construction) until the biologist has determined that the nest is inactive or until after construction ends in the work area (whichever occurs first). If the biologist observes the birds becoming agitated or the incubating adult leaves the					

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nest as a result of construction activities, he or she shall have the authority to halt work and expand the buffer. No avian reporting shall be required for construction outside of the nesting season unless species are observed nesting outside of the normal season or special status bird species are observed in the project area. Buffer Reductions. The specified buffer sizes for nests may be reduced on a case-by-case basis based on compelling biological and ecological reasoning (e.g., the biology of the bird species, concealment of the nest by topography, land use type, vegetation, and the level of project activity), and if a CPUC-approved qualified avian biologist determines that a reduced buffer size would not result in the abandonment of the nest or failure. Buffer reduction requests shall be submitted to the independent avian biologist (a qualified avian biologist approved by the CPUC and who reports directly to the CPUC) to be reviewed and approved. The independent avian biologist shall respond to PG&E's request for a buffer reduction within 48 hours. Buffer reduction requests for special status species (other than those specified in MM BIO-6 and MM BIO-7) shall be submitted to the appropriate wildlife agencies and to the CPUC for approval. The request must include the following: • Species • Location • Pre-existing conditions present on site • Description of the work to be conducted within the reduced buffer, including equipment type and start date • Size and expected duration of proposed buffer reduction • Reason for buffer reduction • Name and contact information of the CPUC-approved qualified avian biologist who requested the buffer reduction and who shall conduct subsequent monitoring • Proposed frequency and methods of monitoring necessary for the nest given the type of bird and surrounding conditions as recommended by the CPUC-approved qualified avian biologist Nests shall be monitored until the avian biologist has determined that the nest is inactive; or construction ends within the standard buffer (whichever occurs first). The biologist shall halt construction and increase the reduced buffer size if it is determined that the nesting bird(s) are agitated or the incubating adult leaves the nest as a result of construction activities. Nesting in Active Work Areas. Non-special status species found building nests within the standard buffer zone after specific project activities begin and the activities are not expected to increase in duration, intensity, or distance from the nest, shall be assumed tolerant of that specific project activity and such nests shall be protected by the immediate implementation of the maximum buffer practicable (as determined by the CPUC-approved avian biologist). Notification, which includes the same data in the above reduction request, shall then be sent to the CPUC's independent avian biologist within 24 hours and the independent avian biologist shall have the authority to increase the buffer distance. These nests shall be monitored on a schedule determined by the qualified CPUC-approved avian biologist during construction activities until the avian biologist has determined that the nest is inactive; or construction ends within the standard buffer zone (whichever occurs first). If the CPUC-approved avian biologist determines that the nesting bird(s) are not tolerant of project activities, the buffer shall be expanded, and may be expanded beyond the					

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standard buffer distance.					
MM BIO-5: Wildlife Protection (Supersedes APMs BIO-4, -5, and -10). The applicant shall implement the following measures to ensure protection of all wildlife species. • Vehicle speed limits on existing unpaved access routes shall not exceed 15 miles per hour and shall not exceed 10 miles per hour on overland access roads. County speed limits shall be followed on existing paved roads. Construction personnel shall avoid collision with wildlife. • If night work is required, all lighting shall be shielded and point downward and away from any identified sensitive biological resources. • All trash and debris shall be secured in animal-proof containers before the end of each workday. Containers shall be emptied at least once per week and disposed of at an appropriate off-site location. • All construction personnel shall not harass any wildlife and shall allow wildlife to leave the work area on their own volition. • Disturbance limits shall be visibly flagged to ensure construction personnel minimize the construction footprint.	CPUC verifies that PG&E implements measures to protect wildlife.	Measures are implemented to avoid and/or minimize impacts on wildlife, including speed limits for project vehicles, animal proofing trash containers, and flagging of disturbance limits.	Prior to and during construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
MM BIO-6: Specific Requirements for Burrowing Owl (Supersedes APM BIO-13). A CPUC-approved qualified avian biologist familiar with burrowing owl biology and survey methods shall conduct a pre-construction survey for this species no more than 30 days prior to construction activities during the non-breeding season and no more than 14 days prior to construction during the breeding season (February 1 to August 31 with some variance by geographic location and climatic conditions; CDFW 2012). The biologist shall confirm whether the owls are occupying the site and whether they are actively nesting. If any burrowing owl or sign of an occupied burrow is observed, the CPUC shall be informed as soon as possible (and within 48 hours). Surveys shall include the irrigation ditch and any area with suitable habitat within 656 feet (200 meters) of the project activities. If access to areas with suitable habitat is restricted, the biologist shall visually survey with a spotting scope, binoculars, or other visual techniques. If an occupied burrow is identified, the CPUC-approved qualified biologist shall immediately implement a minimum 200 meter (656 foot) buffer. Then an appropriate burrow-specific buffer shall be recommended by the CPUC-approved qualified biologist based on the circumstances (e.g., owl tolerance and construction activity level) and as explained by the Staff Report on Burrowing Owl Mitigation (CDFW 2012 or more recent), which shall be approved by the CPUC and then implemented. In areas where owl presence or owl sign is not found, weekly surveys for burrowing owl and its sign shall be conducted for the remainder of the first breeding season and all following breeding seasons. Survey areas shall include work areas where construction-related activities are occurring, and surveys shall adhere to the following procedures: • A CPUC-approved qualified avian biologist shall conduct surveys for nesting birds within 7 days prior to the start of any construction-related activities. Areas shall be re-surveyed every 7 days while construction activities are occurring. If there is no work in an area for 7 days, it shall be considered a new work area if construction resumes. In addition, a CPUC-approved qualified monitor shall conduct pre-construction clearance sweeps for nesting birds at all work areas	CPUC verifies that PG&E conducts pre-construction surveys for burrowing owl according to the specification in this mitigation measure and implements avoidance measures recommended by CDFW in *Staff Report on Burrowing Owl*.	Impacts to burrowing owl are avoided by performing pre-construction surveys and avoiding burrowing owl burrows.	Prior to and during construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC, CDFW

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where suitable habitat is present within approximately 24 hours of construction activities each day during the nesting season. • Surveys shall be conducted with the appropriate duration, level of effort, and timing based on level of construction disturbance, time of day, and environmental factors. Surveys shall be conducted in the irrigation ditch, and any area with suitable habitat within 656 feet (200 meters) of project activities, at a minimum. If access to areas with suitable habitat is restricted, the biologist shall visually survey with a spotting scope, binoculars, or other visual techniques. • Surveys shall be conducted at a minimum between February 1 and September 15; however, the survey season may need to begin earlier or end later depending on species and weather conditions. • Survey results shall be provided to the CPUC each week.					
MM BIO-7: Specific Requirements for Special Status Raptors (Supersedes APM BIO-12). A CPUC-approved qualified avian biologist shall conduct pre-construction surveys for Swainson's hawk and white-tailed kite in appropriate habitat within 0.5 miles of project construction activities prior to the start of construction during breeding season (i.e., the "first" breeding season). The avian biologist shall be familiar with the survey methods and biology of these species. Surveys for Swainson's hawk shall follow the protocols outlined in the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (CDFW 2000a or more recent). If an active nest (i.e., when nest decoration begins) is identified within 0.5 miles of construction activities, then a CPUC-approved qualified avian biologist shall implement a 0.5 miles buffer around the nest. The CPUC and CDFW shall be informed of the nest as soon as possible (and within 48 hours). Requests to reduce standard buffers must be sent to the CPUC to be reviewed in coordination with CDFW. If no indication of Swainson's hawk or white-tailed hawk nesting (indications include vocalizations or observations of nesting activities, nests, perched adults, displaying adults, eggs, chicks) is found during protocol-level surveys, weekly surveys for nesting Swainson's hawk and white-tailed kite shall be conducted for the remainder of the breeding season in all work areas where any construction-related activities are occurring, according to the following procedures: • A CPUC-approved qualified avian biologist shall conduct surveys for nesting birds within 7 days prior to the start of any construction-related activities. Areas shall be re-surveyed every 7 days while construction activities are occurring. If there is no work in an area for 7 days, it shall be considered a new work area if construction resumes. In addition, a CPUC-approved qualified monitor shall conduct pre-construction clearance sweeps for nesting birds at all work areas where suitable habitat is present within approximately 24 hours of construction activities each day during the nesting season. • Surveys shall be conducted with the appropriate duration, level of effort, and timing based on level of construction disturbance, time of day, and environmental factors. Survey areas shall include work areas and a 500-foot buffer, at a minimum. • Surveys shall be conducted at a minimum between February 1 and September 15; however, the survey season may need to begin earlier or end later depending on species and weather conditions.	CPUC verifies that PG&E conducts pre-construction surveys for special status raptors according to the specifications in the mitigation measure and implements avoidance measure recommended by CDFW.	Impacts to special status raptors are avoided by performing pre-construction surveys and avoiding active nests.	Prior to and during construction	Within 0.5 miles of construction activities; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC, CDFW

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• Survey results shall be provided to the CPUC each week. During subsequent breeding seasons following the first season, reconnaissance surveys for Swainson's hawk and white-tailed kite shall be performed in appropriate habitat and at the appropriate time within 0.5 miles of project construction activities in order to detect any new nesting activity. If no indication of nesting is found during reconnaissance surveys, weekly surveys for nesting Swainson's hawk and white-tailed kite shall be conducted for the remainder of the breeding season in all work areas where any construction-related activities are occurring (following procedures in the bullet points above).					
Cultural and Paleontological Resources					
APM CUL-4: Unanticipated discovery of human remains management. If human remains are discovered, work in the immediate vicinity will stop immediately and a PG&E Cultural Resources Specialist will be contacted. The location of the discovery will be secured to prevent further impacts and the location will be kept confidential. The Cultural Resources Specialist will evaluate the discovery and will contact the Fresno County Coroner upon verifying that the remains are human. If the coroner determines the remains are Native American, the Native American Heritage Commission will be contacted and the remains will be left in situ and protected until a decision is made on their final disposition.	CPUC verifies that PG&E implements protocols for unanticipated human remains discovery, including halting work in the event of an unanticipated discovery.	Work is halted if unanticipated human remains are discovered and the proper protocols implemented.	During construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
APM PAL-1: Worker's environmental resources training. All construction crew members must receive a paleontologically focused worker's environmental awareness training module prior to ground disturbance activities for the project. The module will be developed by the lead Paleontologist for the project and can be presented in person, through a safety tailboard, or in some other format, such as a brochure or videotape. The training module will cover the following topics: fossil/paleontological resource identification, discovery guidance, and the contact information of both the paleontological field monitor and the project paleontological resource specialist.	The training program is prepared by PG&E, approved by CPUC, and implemented by PG&E; CPUC verifies that new employees are trained by reviewing training records kept by PG&E.	All personnel receive the CPUC-approved training prior to starting work on the project. All personnel are aware of the APMs and mitigation measures and can effectively implement the measures.	Prior to construction – submit training program to CPUC for review and conduct training During construction – monitor continued training	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
MM CUL-1: Cultural Resources Monitoring and Treatment (supersedes APM CUL-3). A CPUC-approved archaeologist that meets the Secretary of Interior's Professional Qualifications Standards for archaeology shall implement the following procedures if an unanticipated cultural resource is discovered during construction. Work shall be halted and excluded from within 100 feet of the resource. Protective barriers shall be installed with signage identifying the area as an "environmentally sensitive area." The CPUC shall be notified of the find. The CPUC will notify parties who have requested notification of the find to the extent allowed, in consideration of confidentiality requirements. Total avoidance of the resource is preferred, and no additional mitigation is necessary if it is avoided. The resource shall be recorded on California Department of Parks and Recreation 523 forms and filed at the South San Joaquin Valley Information Center. If the resource cannot be avoided, the CPUC-approved archaeologist shall determine in consultation with the CPUC if there is a potential for the resource to be historical (CEQA Guidelines section 15064.5(a)) or a unique archaeological resource (Public Resources Code 21083.2(g)). The CPUC must provide a response to the CPUC-approved archaeologist within seven days regarding a resource that the CPUC-approved archaeologist has found not to be potentially historical or a unique archaeological resource. If the resource is not potentially a historical or unique archaeological resource, work can resume after the CPUC's concurrence. If the resource is potentially a historical or unique archaeological resource, the CPUC-	The CRMTP is prepared by PG&E, approved by CPUC prior to the start of construction, and implemented by PG&E; CPUC verifies that PG&E implements monitoring as described in the plan, including halting work in the event of an unanticipated discovery.	Archeological monitoring is conducted according to the CRMTP. Measures identified in the CRMTP are implemented if a previously undiscovered cultural resource is uncovered during construction.	Prior to construction – prepare, submit, and obtain approval of CRMTP During construction – follow CRMTP in case of resource discovery	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
approved archaeologist shall prepare an Evaluation Plan that details the procedures to be used to determine whether the resource is a historical or unique archaeological resource. The Evaluation Plan shall be submitted to the CPUC for review. The CPUC will approve or request changes to the Evaluation Plan within 7 days of submittal by PG&E. Once approved, the Evaluation Plan shall be implemented, and a report shall be prepared that indicates whether the resource is a historical resource or unique archaeological resource. If the discovery is not historical or a unique archaeological resource and the CPUC concurs with that determination, work may proceed in the area of the discovery. If the discovery is historical or a unique archaeological resource, PG&E shall prepare a Data Recovery Plan that would reduce impacts to less than significant. The Data Recovery Plan shall be prepared in accordance with CEQA Guidelines section 15126.4(b)(3)(C) and PRC section 21083.2 and shall describe methods that will yield relevant information. The Data Recovery Plan shall be submitted to the CPUC for review and approval. The CPUC will approve or request changes to the Data Recovery Plan within 7 days of submittal by PG&E. Once approved, the applicant shall implement the plan. When the field work is completed, a Data Recovery Field Memo shall be prepared that briefly describes the data and materials recovery. The Data Recovery Field Memo shall be submitted to the CPUC for review and approval. The CPUC will approve or request changes to the Data Recovery Field Memo within 7 days of submittal by PG&E. Once the Data Recovery Field Memo has been approved, construction may proceed in the area of the discovery. A more detailed Data Recovery Report shall be prepared within 90 days of the Data Recovery Field Memo. The Data Recovery Report shall present thorough results of the data recovery efforts, conclusions drawn from the work, and where materials will be curated and shall also contain completed California Department of Parks and Recreation 523 forms. The Data Recovery Report shall be submitted to the CPUC for review and approval. Once approved, the Data Recovery Report and 523 forms shall be filed with the South San Joaquin Valley Information Center.					
MM CUL-2: Worker Education Program (supersedes APM CUL-1, supplements APM CUL-4). PG&E shall design and implement a Worker Education Program that shall be provided to all project personnel who may encounter and/or alter historical resources or unique archaeological resources, including construction supervisors and field personnel. No construction worker will be involved in field operations without having participated in the Worker Education Program. The Worker Education Program shall include, at a minimum: • A review of archaeology, history, prehistory and Native American cultures associated with historical resources in the project vicinity; • A review of the types of resources that could be uncovered in the area, including historical artifacts associated with the nonextant historical complex at the Sanger Substation site; • A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to historic preservation and Native American resources; • A discussion of procedures to be followed in the event that unanticipated cultural resources or human remains are discovered during implementation of the project; • A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and PG&E policies; and • A statement by the construction company or applicable employer agreeing to abide by the Worker Education Program, PG&E policies and procedures, and	The training program is prepared by PG&E, approved by CPUC, and implemented by PG&E; CPUC verifies that new personnel are trained by reviewing training records.	All personnel receive the CPUC-approved training prior to starting work on the project. All personnel are aware of the APMs and mitigation measures and can effectively implement the measures.	Prior to construction – submit training program to CPUC for review and conduct training During construction – monitor continued training	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
other applicable laws and regulations.					
MM CUL-3 (supersedes APM PAL-2): Unanticipated paleontological resource discovery protocol. If a previously unidentified paleontological resource is discovered during construction, PG&E shall immediately require that work be halted within 100 feet of the resource; measures be put in place to prevent further impacts to the resources, such as protective barriers and/or signs, and/or coverings; that PG&E's CPUC-approved Cultural Resources Specialist (CRS) and paleontological resource specialist be notified; and that the CRS notify the CPUC. PG&E's CPUC-approved paleontological resource specialist shall examine the find and determine whether it is unique under Part V of CEQA Guidelines Appendix G. The CPUC-approved paleontologist may develop significance criteria for the fossils likely to be yielded by the Riverbank Formation, subject to CPUC approval (such criteria will be documented in the PRMMP discussed in MM CUL-4). In the absence of other agreed-upon criteria, a paleontological resource shall be considered unique if it meets the definition of a significant paleontological resource under the 2010 Society of Vertebrate Paleontology *Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources* definition: Significant paleontological resources are fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). The results of the evaluation will be submitted to the CPUC, and the CPUC must determine whether or not the resource is unique. The CPUC must respond in writing within seven days stating whether the resource is unique and provide reasoning if it disagrees with the conclusion. If the resource is determined not to be unique, work may commence in the area. If the resource is significant and can be avoided and thus not impacted, PG&E shall document the resource in accordance with professional standards, continue to flag the area for avoidance during construction, and take no further action. Preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to unique paleontological resources. However, if the resource is unique and cannot feasibly be avoided, PG&E shall consult with the CPUC to determine appropriate mitigation measures.-Mitigation methods may include ensuring that fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of a qualified paleontologist. Methods of recovery, testing, and evaluation shall adhere to current professional standards for recovery, preparation, identification, analysis, and curation, such as the 2010 Society of Vertebrate Paleontology *Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources*. Work may commence after data recovery (if undertaken) and upon approval by the CPUC.	CPUC verifies that PG&E implements protocols for unanticipated paleontological resource discovery, including halting work in the event on an unanticipated discovery.	Work is halted if an unanticipated paleontological resource is discovered and the proper protocols implemented.	During construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
MM CUL-4 (supersedes APM PAL-3): Paleontological Resources Monitoring and Mitigation Plan. A qualified professional paleontologist shall prepare a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) for the project before the onset of ground disturbing activities. The PRMMP shall be submitted to the CPUC for review and approval at least 30 days prior to the start of any excavation to 5 feet below ground surface. PG&E's CPUC-approved paleontological resource specialist shall direct implementation of the PRMMP.	The PRMMP is prepared by PG&E, reviewed by CPUC, and implemented by PG&E; CPUC verifies that PG&E implements monitoring as described in the plan, including having a monitor present when applicable.	Paleontological monitoring is conducted according to the PRMMP, including having a monitor present when applicable.	Prior to construction – prepare, submit, and obtain approval of PRMMP During construction – monitoring is conducted as set forth in the PRMMP	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
The PRMMP shall include full-time monitoring of excavations extending more than 5 feet deep and auguring/boring extending to more than 5 feet deep and more than 3 feet in diameter, or in lieu of full-time monitoring, the PRMMP shall include the following requirements: Initial Monitoring: 1. Prior to the start of construction, PG&E's CPUC-approved paleontological resource specialist shall identify a minimum number and array of excavation types (i.e. TSP foundation drilling, grading, retention pond) extending more than 5 feet deep and auguring/boring extending to more than 5 feet deep and more than 3 feet in diameter sufficient to obtain data to determine whether the project area is likely to yield significant paleontological resources. The placement of the locations requiring monitor will be developed by the paleontologist in consultation with PG&E's construction team, and will focus on volume of soil to be disturbed to produce a representative sample. The PRMMP shall identify the methods used (e.g., microscopic examination of matrix samples, visual examination of excavated material) to make the determination. 2. At all sites identified by PG&E's CPUC-approved paleontological resource specialist, a CPUC-approved paleontological field monitor shall monitor the excavation and auguring during the initial stages of construction (i.e., from the beginning of construction until a determination is made after initial monitoring as described in this item) to determine whether the project area is likely to yield significant paleontological resources. Subsequent Monitoring: The results of initial monitoring shall be described in a memo, to be submitted to CPUC for review and approval. CPUC will review and either request revisions or approve the memo within 2 business days of submittal by PG&E. PG&E shall not reduce or stop monitoring until CPUC approves the memo. Based on the results of initial monitoring, the following measures shall be required and described in the PRMMP: • If PG&E's CPUC-approved paleontological resource specialist determines that no part of the project area is likely to yield significant paleontological resources, further monitoring shall not be required. PG&E must still make available the paleontological resource specialist and paleontological field monitor (available to go to the work site as needed). Training provided pursuant to APM PAL-1 will enable work crews to identify likely fossils, and inform the appropriate parties if such deposits are identified. • If PG&E's CPUC-approved paleontological resource specialist discovers significant paleontological resources or determines the project area is likely to yield significant paleontological resources, then continued monitoring shall be required as deemed appropriate by the paleontological resource specialist, in consultation with the CPUC and PG&E's construction team, based on the nature, location, and geologic context of the fossil(s), as well as the potential for further disturbance. If a paleontological resource is discovered at any time during initial monitoring, continued monitoring, or unmonitored construction, PG&E shall notify the CPUC immediately and the paleontological resource specialist will inspect the matrix for fossils. If a paleontological resource is discovered, MM CUL-3 shall be implemented.					

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
MM CUL-5: Undiscovered potential Tribal Cultural Resources. The following procedure shall be employed (after stopping work and following the procedure for determining eligibility in MM CUL-1) if a resource is encountered and determined by the project's qualified archaeologist to be eligible for the CRHR or a local register of historic resources and is associated with a California Native American Tribe(s) with a traditional and cultural affiliation with the geographic area of the proposed project: • The project's qualified archaeologist shall notify the CPUC for appropriate action. PG&E will assist the CPUC if needed to identify the lead contact person for the California Native American Tribe(s) potentially associated with the cultural resource and with a traditional and cultural affiliation with the geographic area of the proposed project. The CPUC will contact the lead contact person to set up a meeting with PG&E and the CPUC. • The project's qualified archaeologist shall participate with the CPUC in discussions with the California Native American Tribe(s) whether the resource is a "tribal cultural resource" as defined by PRC section 21084.3(b) and the tribe(s)' preferred method of mitigation, if the resource is determined to be a TCR. • If no agreement can be reached for mitigation after discussions with the California Native American Tribe(s) or it is determined that the tribe(s)' preferred mitigation is not feasible, PG&E will implement one of the example mitigation measures listed in PRC section 21080.3(b), or other feasible mitigation.	CPUC verifies that PG&E properly analyzes and processes all potential Tribal Cultural Resources.	All collected cultural remains are properly cataloged, analyzed, and curated with appropriate institutions.	During construction	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
Geology and Soils					
APM GEO-2/APM WQ-1: Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). Because the project involves more than an acre of soil disturbance, a SWPPP will be prepared for the project as required by the state National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater Associated with Construction Activity. This plan will be prepared in accordance with the Water Board guidelines and other applicable erosion and sediment control Best Management Practices (BMPs). Implementation of the plan will help stabilize disturbed areas and will reduce erosion and sedimentation. The SWPPP will designate BMPs that will be followed during and after construction of the project. Examples of erosion-minimizing measures that may be identified in the SWPPP include: • 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. • Revegetating disturbed areas, where applicable, following construction. In areas where soils are to be temporarily stockpiled, soils will be placed in a controlled area and will 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 will be placed at least 100 feet from the waterbody or will be properly contained (such as berming or covering to minimize risk of sediment transport to the drainage). Mulching or other suitable stabilization measures will be used to protect exposed areas during and after construction activities. Erosion-control measures will be installed, as	PG&E prepares and submits SWPPP to RWQCB; CPUC verifies that PG&E submits SWPPP and implements proper BMPs.	SWPPP is prepared and implemented.	Prior to construction – obtain NPDES General Permit and prepare SWPPP During construction – implement BMPs	Entire project area	PG&E, CPUC, RWQCB

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
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, will remain in place until disturbed areas have stabilized. The SWPPP will be designed specifically for the hydrologic setting of the project.					
Greenhouse Gases					
APM GHG-1: Minimize GHG emissions. • Minimize unnecessary construction vehicle idling time. The ability to limit construction vehicle idling time will depend on the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel-powered vehicles, have extended warm-up times following start-up that limit their availability for use following start-up. Where such diesel-powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The project will apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. • Maintain construction equipment in proper working conditions in accordance with PG&E standards. • Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines 50 hp or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program. • Minimize welding and cutting by using compression of mechanical applications where practical and within standards. • Encourage use of natural gas powered vehicles for passenger cars and light-duty trucks where feasible and available. • Encourage the recycling of construction waste where feasible.	CPUC-designated environmental monitor verifies that PG&E minimizes vehicle idling time, construction equipment is kept in proper working condition, and low-emission or electrical equipment is used where feasible. CPUC verifies that PG&E trains workers on vehicle use.	Greenhouse gas emission minimization strategies are being implemented.	Prior to construction – verify training of workers During construction	Entire project area	PG&E, CPUC
APM GHG-2: Minimize sulfur hexafluoride (SF_6) emissions. To avoid and minimize fugitive (leakage) SF_6 emissions, PG&E will incorporate the following measures: • Incorporate Sanger Substation into PG&E's system-wide SF_6 emission reduction program. CARB has adopted the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear sections 95350 to 95359, title 17, California Code of Regulations, which requires that company-wide SF_6 emission rate not exceed 1 percent by 2020. Since 1998, PG&E has implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor system-wide SF_6 leakage rates to facilitate timely replacement of leaking breakers. PG&E has improved its leak detection procedures and increased awareness of SF_6 issues within the company. X-ray technology is now used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As an active member of USEPA SF_6 Emission Reduction Partnership for Electrical Power Systems, PG&E has focused on reducing SF_6 emissions from its transmission and distribution operations and has reduced the SF_6 leak	PG&E provides documentation to CPUC to show implementation of SF_6 emission reduction program.	SF_6 mitigation strategies, including record keeping and maximum leakage rates, are implemented.	During operation and maintenance	Expanded substation	PG&E, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
rate by 89 percent and absolute SF_6 emissions by 83 percent. • Require that the breakers at Sanger Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF_6. • Maintain substation breakers in accordance with PG&E's maintenance standards. • Comply with California Air Resources Board Early Action Measures as these policies become effective.					
Hazards and Hazardous Materials					
APM HAZ-1: Spill Prevention, Control, and Countermeasures (SPCC). In the event of an accidental spill, the substation is equipped with a retention basin that meets SPCC Guidelines (40 CFR 112). The retention basin will be sufficiently sized to accommodate the accidental spill of all mineral oil from the largest transformer located at the substation. The substation will 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. Containment will be constructed around and under the battery racks, and the SPCC will address containment from a battery leak. A site-specific SPCC Plan will be prepared prior to the initiation of construction.	The site-specific SPCC Plan will be prepared by PG&E, approved by CPUC, and implemented by PG&E. CPUC will verify that PG&E implements the SPCC, including inspection of required measures by CPUC-designated environmental monitor.	SPCC procedures and requirements are implemented.	Prior to construction – prepare SPCC Plan and submit to CPUC for review and approval During operation – implement SPCC Plan	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC
APM HAZ-3: Shock hazard. All authorized personnel working on site, during either construction or maintenance and operation, will be trained according to PG&E standards. To minimize potential exposure of the public to electric shock hazards, an 8-foot-tall chain link fence topped with 1 foot of barbed wire will extend around the perimeter of the expanded substation for a total of approximately 9 feet, thus restricting site access. Warning signs will be posted to alert persons of potential electrical hazards. All electric power lines will be designed in accordance with CPUC General Order 95 Guidelines for safe ground clearances established to protect the public from electric shock.	CPUC verifies that PG&E installs fences and signs, and that PG&E designs electrical power lines in accordance with CPUC General Order 95 Guidelines.	All personnel receive training prior to starting work on the project. Fence and signs installed and CPUC General Order 95 Guidelines implemented. Security fence installed.	Prior to construction – verify training of workers During operation and maintenance – verify implementation of design elements	Substation and all power lines	PG&E, CPUC
MM HAZ-1: Hazardous Materials Management Plan (supersedes APM HAZ-2 and APM HAZ-4). Prior to construction, the applicant shall prepare a Hazardous Materials Management Plan, which shall be implemented during construction to prevent the release of hazardous materials and hazardous waste. The plan shall include the following requirements and procedures: 1. Training requirements for construction workers in appropriate work practices, including spill prevention and response measures. Additional training requirements for those performing excavation activities shall be required and shall include training on types of contamination and contaminants (e.g., petroleum hydrocarbons, asbestos, and hazardous materials [as defined by the California HSC]) and identifying potentially hazardous contamination (e.g., stained or discolored soil and odor). 2. Contain all hazardous materials at work sites and properly dispose of all such materials. a. Hazardous materials shall be stored on pallets within fenced and secured areas and protected from exposure to weather and further contamination. b. Fuels and lubricants shall be stored only at designated staging areas. 3. Maintain hazardous material spill kits for small spills at all active work sites and staging areas. Thoroughly clean up all spills as soon as they occur. 4. Store sorbent and barrier materials at all construction staging areas, including staging areas used during activities for decommissioning. Sorbent and barrier materials will be used to contain runoff from contaminated areas and from accidental releases of oil or other potentially hazardous materials.	HMMP is prepared by PG&E and submitted to CPUC for review and approval; CPUC verifies that PG&E trains workers by reviewing training logs. CPUC-designated environmental verifies that PG&E implements HMMP by inspecting construction sites for presence of spill kits and other required materials, inspection of construction vehicles for leaks, and proper handling of any hazardous materials.	Minimize exposure to hazardous materials or hazardous waste.	Prior to construction – prepare, submit, and obtain approval of HMMP and conduct training During construction – implement HMMP	Entire project area; not applicable to Fence Meadow Repeater Station.	PG&E, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
5. Perform all routine equipment maintenance at a shop or at the staging area and recover and dispose of wastes in an appropriate manner. 6. Monitor and remove vehicles used for construction-related activities with chronic or continuous leaks from use and complete repairs before returning them to operation. 7. Store shovels and drums at the staging areas. If small quantities of soil become contaminated, use shovels to collect the soil and store in drums before proper offsite disposal. Large quantities of contaminated soil may be collected using heavy equipment and stored in drums or other suitable containers prior to disposal. Should contamination occur adjacent to staging areas because of runoff, shovels and/or heavy equipment shall be used to collect the contaminated material. Only trained construction workers shall handle hazardous, and potentially hazardous, materials. 8. Transporting, shipping, and disposal procedures for hazardous waste. 9. Procedures for notifying applicant and agency personnel in the event of the discovery of contaminated soil and/or groundwater. Contact information for federal, regional, and local agencies, the applicant's environmental coordinator(s) responsible for the cleanup of contaminated soil or groundwater, and licensed disposal facilities and haulers. This plan will be submitted to the CPUC for review and approval at least 30 days prior to the start of construction of the proposed project.					
MM HAZ-2: Fire Control Measures. PG&E shall implement the following measures prior to and during work at the Fence Meadow Repeater Station: 1. As part of the Worker Training Program, workers will be trained in fire prevention and response practices to be implemented to minimize the risk of fire, and in the event of fire, trained to provide immediate response. At minimum, construction personnel shall be trained in fire reporting and incipient-stage fire prevention, control, and extinguishing (i.e., the fire can be controlled or extinguished by portable fire extinguishers, small hose systems, or portable water supplies without the need for protective clothing or breathing apparatus.) 2. Prohibit smoking at the worksites other than in designated areas chosen that are free of ignitable material. Require disposal of cigarette butts in a way that will not ignite vegetation or other materials. 3. Ensuring an appropriate fire extinguisher is present before initiating and during each hot-work activity (e/g/, welding, brazing, soldering, grinding, and arc cutting). 4. Preventing vehicles with hot exhaust manifolds from idling on roads with combustible vegetation under the vehicles. 5. Do not park vehicles in areas with vegetation prone to ignition. 6. Equip all vehicles with a fire extinguisher.	CPUC-designated environmental monitor verifies that PG&E prohibits smoking outside an appropriate designated area and provides required fire extinguishers. CPUC verifies that PG&E trains workers on fire prevention and response by reviewing training logs.	All personnel receive the CPUC-approved training prior to starting work on the project. All personnel can effectively implement the measures. Smoking is prohibited outside of designated area, required fire extinguishers are available, parking and idling does not occur near combustible vegetation as required.	Prior to construction – verify training of workers During construction – implement measures	Fence Meadow Repeater Station	PG&E, CPUC
Hydrology and Water Quality					
APM GEO-2/APM WQ-1: Development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). See Geology and Soils.	See Geology and Soils.	See Geology and Soils.	See Geology and Soils.	See Geology and Soils.	See Geology and Soils.

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
Noise					
APM NOI-2: Construction equipment noise reduction devices and low noise equipment. PG&E shall include noise control requirements in specifications provided to construction contractors. Such contract specifications would include, but not be limited to, performing all work in a manner that minimizes noise; use of equipment with effective mufflers; use of "quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) whenever possible; using equipment that is specifically designed for low noise emissions and equipment powered by electric or natural gas as opposed to diesel or gasoline; and undertaking the most noisy activities during the daytime to minimize disturbance to surrounding residents.	CPUC verifies that PG&E uses noise reduction devices and low noise equipment.	Construction equipment noise is reduced by implementing noise reduction devices or using low noise equipment.	During construction.	Entire project area.	PG&E, CPUC
APM NOI-3: Placement of stationary construction equipment. Stationary equipment used during construction will be located at a minimum distance of 200 feet from sensitive noise receptors.	CPUC verifies that stationary equipment used during construction is located 200 feet from sensitive noise receptors.	Stationary equipment is located more than 200 feet from sensitive noise receptors.	During construction.	Entire project area.	PG&E, CPUC
APM NOI-4: Minimization of unnecessary engine idling. Unnecessary engine idling will be limited. (See APM GHG-1.)	CPUC verifies engine idling is limited.	Engine idling is limited.	During construction.	Entire project area.	PG&E, CPUC
APM NOI-6: Noise disruption minimization through residential notification. Residents in areas of heavy construction noise will be notified prior to commencing construction activities. Notification will include written notice and the posting of signs in appropriate locations with a contact number that residents can call with questions and concerns.	CPUC verifies residents in area will be notified prior to heavy construction noise activities begin.	Residents are notified prior to heavy construction noise commencing.	During construction.	Entire project area.	PG&E, CPUC
Traffic and Transportation					
MM TRAN-1: Traffic Management Plan (supersedes APM TRAN-1). A Traffic Management Plan shall be prepared upon determination of the final construction schedule and precise locations and durations of lane closures and other project details. Measures to be included in the plan that would allow for: • Safe vehicle passage shall adhere to the California Manual on Uniform Traffic Control Devices. • Avoidance of truck queuing on South McCall Avenue of trucks waiting to enter the substation construction site. Potential measures include: • Flaggers and/or signage to halt traffic and direct traffic at lane closures and to allow traffic to pass when construction is halted. • Scheduling lane closures at off-peak times. • Notification of emergency services providers of the timing, location, and duration of lane closures. • Requirement that emergency vehicle access is maintained at all times. • Scheduling construction deliveries and employee arrival to be spread out throughout the day. • Implementing traffic control within the substation site to move vehicles to allow arriving vehicles to enter the site. The Traffic Management Plan shall also include the following measures: • Limit Vehicle Speeds: Vehicle speeds shall be limited to 15 miles per hour on unpaved roadways used to access the site during construction. PG&E shall notify owners of property on which internal access roads are located at least one week in advance that the internal access road will be used for construction	CPUC verifies that PG&E prepares and implements a Traffic Management Plan. CPUC verifies that PG&E implements measures to avoid queueing of trucks and vehicles on South McCall Avenue. PG&E ensures that vehicle speeds do not go above 15 mph on unpaved roadways used to access the site. CPUC verifies that PG&E posts signage along South McCall Avenue and East Jensen Avenue when there is the possibility of slow trucks exiting the site. Signage shall adhere to the California Manual on Uniform Traffic Control Devices. CPUC verifies that PG&E repairs any roads damaged by project vehicle traffic to pre-project conditions; and verifies that PG&E documents roadway conditions before and after construction along East Jensen	Avoid queuing on South McCall Avenue. Vehicle speeds remain below or at 15 mph. Allow for safe vehicle passage during lane closures. Repair all damaged roads pre-project pavement conditions.	Prior to construction – prepare a Traffic Management Plan and document pre-project road conditions. During construction – implement Traffic Management Plan Post construction – document road conditions and repair damaged roadways	Substation site and South McCall Avenue	PG&E, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
traffic. • Slow Truck Warning: During truck delivery and exit hours, PG&E shall post signage at appropriate locations (e.g., along South McCall and East Jensen Avenues) warning drivers when there is a possibility for slow trucks to exit the substation site onto South McCall Avenue. Signage shall adhere to the California Manual on Uniform Traffic Control Devices. • Road Damage Repair: PG&E shall repair to pre-project conditions any roads damaged by project vehicle traffic. PG&E shall document roadway conditions with photographs prior to project activities along East Jensen Avenue and South McCall Avenue adjacent to the project area and extending 0.25 miles from the project area. PG&E shall also take photographs after the project is completed and after any repairs that document restoration of pre-project pavement conditions. • Emergency Service Provider Notification: PG&E shall notify the provider of the location, date, time, and duration of the lane closure. PG&E shall make provisions to maintain emergency vehicle access at all times in coordination with local emergency service providers, such as allowing for bypass of slow vehicle traffic during lane closures. To the extent that compliance with applicable permit requirements, e.g., obtaining the required encroachment permit from Fresno County, would reduce identified significant traffic impact(s) consistent with the performance standards set forth in MM TRAN-1, PG&E may submit such permit(s) in lieu of addressing that impact, subject to review and approval by CPUC prior to the start of construction.	Avenue and South McCall Avenue.				

Key:

APM	applicant proposed measure
BMP	best management practices
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CPUC	California Public Utilities Commission
CFR	Code of Federal Regulations
CRMTP	Cultural Resources Monitoring and Treatment Plan
dBA	A-weighted decibels
HMMP	Hazardous Materials Management Plan
hp	horsepower
IS/MNP	Initial Study/Mitigated Negative Declaration
MM	mitigation measure
mph	miles per hour
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric Company
PRMMP	Paleontological Resources Monitoring and Mitigation Plan
RWQCB	Regional Water Quality Control Board
SF_6	sulfur hexafluoride
SJVAPCD	San Joaquin Valley Air Pollution Control District
SPCC	Spill Prevention, Control, and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

The CPUC-designated Project Manager and environmental monitor will keep a record of any incidents of non-compliance with mitigation measures, APMs, or other conditions of project approval, which will be supplied to the applicant and the CPUC. In all instances of non-compliance, the CPUC's designated Project Manager or environmental monitor may discuss necessary compliance corrections with the construction supervisor and/or the applicant's Project Manager. Continued non-compliance or non-compliance that puts environmental resources at risk will be reported immediately to the CPUC Project Manager. The CPUC (-designated environmental monitor, designated Project Manager, or the CPUC Project Manager) may decide to halt work due to non-compliance.

6.1 Minor Project Refinements

This section describes the CPUC's process for staff approval of Minor Project Refinements (MPRs) that may be necessary due to changes needed after the applicant's final engineering of elements of the proposed project. During the course of construction, circumstances may arise that require minor deviations from the project as approved. The CPUC, along with the IS/MND environmental monitors, would evaluate any proposed deviations from the approved project to ensure they are consistent with CEQA requirements. Depending on its nature, a requested deviation would be processed as a Minor Project Change (MPC) or be the subject of a Petition for Modification (PFM) submitted by the applicant to the CPUC.

MPCs would be strictly limited to minor project changes that do not trigger additional permit requirements, do not increase the severity of a significant impact or create a new significant impact, and are within the geographic scope of the IS/MND.

If a project change would create or have the potential to create a new significant impact, increase the severity of a significant impact, or occur outside the geographic area evaluated in the IS/MND, PG&E would be required to submit a PFM. The CPUC would evaluate the PFM under CEQA, as appropriate, to determine what form of supplemental environmental review would be required.

6.2 Dispute Resolution

The following procedure will be observed for dispute resolution:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC-designated Project Manager for resolution. The CPUC Project Manager will attempt to resolve the dispute.
- **Step 2.** Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the proposed project or adopted MMRP.
- **Step 3.** If a dispute or complaint regarding the implementation or evaluation of the MMRP cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC Executive Director or his/her designee. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the CPUC Executive Director or designee(s) shall meet and confer with the filer and other affected participants for the purposes of resolving the dispute. The CPUC Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.

- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the resolution, such party(ies) may appeal it to the CPUC via a procedure to be specified by the CPUC.

Parties may also seek review by the CPUC through existing procedures specified in the CPUC Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

6.3 Final Mitigation Monitoring and Reporting Plan

A Final MMRP will be prepared for the Final IS/MND that incorporates any changes to the proposed project or mitigation measures that are made as a result of public review of the Draft IS/MND and further consideration of the proposed projects by the CPUC.