

ATTACHMENT A: AVOIDANCE AND PROTECTION MEASURES

Table A-1 lists Avoidance and Protection Measures (APMs) proposed in the Proponent’s Environmental Assessment (PEA), Table A-2 includes additional APMs listed in the Supplement to the PEA for Site 8, and Table A-3 includes additional APMs listed in the Supplement to the PEA for Site 3.

Table A-1: Avoidance and Protection Measures Listed in the PEA

<i>Air Quality</i>
APM AQ-1. Water all active construction areas at least twice daily during dry conditions.
APM AQ-2. Cover all trucks hauling dirt, sand, or loose materials, or require all trucks to maintain at least two feet of freeboard.
APM AQ-3. Pave, apply water as necessary to prevent fugitive dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
APM AQ-4. Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
APM AQ-5. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
APM AQ-6. Encourage construction workers to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the project will depend upon the proximity of carpool facilities to the area, the geographical commute departure points of construction workers, and the extent to which carpooling will not adversely affect worker arrival time and the project’s construction schedule.
APM AQ-7. Minimize construction equipment exhaust by using low-emission 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 California Air Resources Board (CARB) Statewide Portable Equipment Registration Program, or shall meet at a minimum USEPA/CARB Tier 1 engine standards.
APM AQ-8. Minimize unnecessary idling time – less than the 5-minute maximum idling required by law – through application of a “common sense” approach to vehicle use. If a vehicle is not required immediately or continuously for construction activities, its engine will be shut off.
APM AQ-9. Encourage use of natural gas powered vehicles for passenger cars and light duty trucks where feasible and available.
APM AQ-10. Minimize welding and cutting by using compression of mechanical applications where practical and within standards.
APM AQ-11. Encourage the recycling of construction waste where feasible.
APM AQ-12. Comply with California Air Resources Board Early Action Measures as these

policies become effective.
APM AQ-13. Maintain substation breakers in accordance with PG&E’s maintenance guidelines.
APM AQ-14. Require that the proposed substation’s breakers have a manufacturer’s guaranteed leakage rate of 0.5 percent per year or less for SF6.
<i>Biological Resources</i>
APM BIO-1. An ongoing special-status species/sensitive habitat education program for construction crews will be conducted by a qualified biologist(s) prior to the commencement of the project and during construction activities. Sessions will include discussion of the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), the consequences of noncompliance with these acts, identification and values of sensitive species and sensitive habitats including Pool Creek and adjacent wetland habitats, and the importance of keeping all project activities and sediments within the designated work area.
APM BIO-2. The wetlands, intermittent stream, and Pool Creek will be denoted as environmentally sensitive areas and will be avoided during construction at all times. BMPs will be installed between the poles and Pool Creek and between the poles and the intermittent stream to avoid sedimentation or pollutant runoff resulting from construction activities associated with the distribution line alignment reconductoring.
APM BIO-3. Soil and vegetation disturbance will be minimized to the greatest extent possible.
APM BIO-4. An educational brochure will be produced for construction crews working on the project. Color photos of some of the special-status species will be included, as well as a discussion of protective measures agreed to by PG&E and the resource agencies.
APM BIO-5. A pre-construction wildlife and plant survey will be conducted prior to the start of construction activities to identify any special-status species in the proposed substation site, Fulton No. 1 60 kV power line and distribution line alignment, nesting birds or mammals, and occupied burrows. Should a sensitive wildlife or plant species be found, CDFG and/or USFWS will be contacted immediately.
APM BIO-6. A biological monitor will be on-site during grading activities and installation of the silt fence around the proposed substation site perimeter and needed areas along the distribution line alignment. After these activities are completed, the biological monitor will visit the site once a week. The biologist will complete a weekly report summarizing activities and environmental compliance.
APM BIO-7. Trash dumping, firearms, and pets will be prohibited in project work areas.
APM BIO-8. PG&E will adhere to the conservation measures listed in the USFWS programmatic biological opinion and the appendage to the programmatic biological opinion for special-status plant species.
<p>If special-status plant species are found during any of the special-status plant surveys, PG&E will modify the project to avoid impacts to special-status plant species. If identified special-status plant species cannot be avoided, PG&E will:</p> <ul style="list-style-type: none"> • acquire suitable habitat for identified species within the project site,

<ul style="list-style-type: none"> • develop a long-term habitat enhancement plan for identified species, and/or • monitor the implementation of and the compliance with mitigation measures outlined in the habitat enhancement plan.
<p>APM BIO-9. Precautions will be taken to minimize the introduction of noxious or invasive weeds into the adjacent seasonal wetlands in order to protect the plants that provide habitat for the bee. Construction equipment will be clean before it arrives on the proposed substation site, Fulton No. 1 60 kV power line and distribution line alignment. Any landscaping involving vegetation other than trees and/or shrubs will consist of a native seed mix.</p>
<p>APM BIO-10. A qualified biologist shall conduct a pre-construction survey in the project area no earlier than two days before the start of ground-disturbing activities for the FYLF and NWPT. If these species are found near any proposed construction areas, impacts on individuals and their habitat shall be avoided to the extent feasible. If the FYLF or NWPT is determined to be present in work areas, the biologist will contact CDFG to obtain approval to capture the frog or turtle prior to construction activities and relocate them to nearby, suitable habitat out of harm's way.</p>
<p>APM BIO-11. Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps and generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.</p>
<p>APM BIO-12. Anti-perch devices will be applied to the overhead distribution line improvements to inhibit raptor perching and nesting.</p>
<p>APM BIO-13. Before the spring breeding season (and prior to the start of construction), a survey for potential raptor and passerine nests will be performed by a qualified biologist at the proposed substation site, along the Fulton No. 1 60 kV power line and distribution line alignment. If active nests or breeding species are located prior to construction, PG&E will consult with the USFWS and/or CDFG to coordinate mitigation if the active nests cannot be avoided.</p>
<p>APM BIO-14. If construction activities do not start until the onset of the nesting season for raptors (generally March through September), a qualified biologist will conduct a raptor survey at the proposed substation site, along the Fulton No. 1 60 kV power line and distribution line alignment and of the surrounding area within 500 feet.</p>
<p>APM BIO-15. In the event that an active raptor nest is found within 500 feet of the project area, USFWS and/or CDFG will be consulted to determine appropriate buffer and monitoring requirements.</p>
<p>APM BIO-16. Before the spring breeding season (and prior to start of construction), a survey for roosting bats or maternity colonies will be performed by a qualified biologist at the proposed substation site, and along the Fulton No. 1 60 kV power line and distribution line alignment. It is expected that if construction occurs near suitable roosting habitat before the onset of breeding season, the construction disturbance will cause the bats to seek alternate sites for breeding and nest construction.</p>
<p>APM BIO-17. If avoidance of an active roosting bat or maternity colony is not practicable, a sufficient buffer will be established at the discretion of the appropriate agency.</p>
<p>APM BIO-18. In the event that a roosting bat or maternity colony occurs within or near the project area, a qualified biological monitor will be provided and will remain on-site during</p>

<p>construction activities to ensure there is no nest abandonment.</p>
<p>APM BIO-19. Badger dens will be clearly demarcated with appropriate flagging and signs and avoided if possible.</p>
<p>APM BIO-20. If a badger den cannot be avoided, CDFG will be consulted to discuss the possible relocation of the badger.</p>
<p>APM BIO-21. The introduction of noxious weeds carried in with construction equipment will be minimized by ensuring the equipment is clean before it arrives at the proposed substation site, Fulton No. 1 60 kV power line and distribution line alignment. In addition, only weed-free erosion control materials will be used on the project.</p>
<p>APM BIO-22. Any landscaping involving vegetation other than trees and/or shrubs will consist of a native seed mix.</p>
<p>APM BIO-23. The valley oaks and oak woodlands will be denoted as environmentally sensitive and will be avoided to the extent practical. If any protected oak trees are removed, they will be replaced during the landscaping consistent with the Town of Windsor’s Ordinance for Tree Mitigation.</p>
<p><i>Cultural Resources</i></p>
<p>APM CU-1. Prior to the initiation of construction or ground-disturbing activities, PG&E will train all construction personnel to understand the potential for exposing subsurface cultural resources and to recognize possible buried cultural resources. Training will inform all construction personnel of the anticipated procedures that will be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains and their treatment.</p>
<p>APM CU-2. Upon discovery of possible buried cultural materials (including potential Native American skeletal remains), work in the immediate area of the find will be halted and PG&E’s archaeologist notified. Once the find has been identified and evaluated, PG&E’s archaeologist will make the necessary plans for treatment of the find(s) and mitigation of impacts if the finds are found to be significant according to CEQA. State law will be followed in the event of the exposure of Native American skeletal remains.</p>
<p>APM CU-3. In the event human remains are encountered during the project, work in the immediate area of the find will be halted and the County Coroner will be notified immediately. Work will remain suspended until the Coroner can assess the remains. In the event the remains are determined to be prehistoric in origin, the Coroner will notify the Native American Heritage Commission, who will then identify a Most Likely Descendent. The Most Likely Descendent will consult with PG&E’s archaeologist to determine further treatment of the remains.</p>

Hazards and Hazardous Materials

APM HM-1. A Hazardous Substance Control and Emergency Response Plan will be prepared for the project. It will prescribe hazardous material handling procedures to reduce the potential for a spill during construction or exposure of the workers or public to a hazardous material. The plan will provide a discussion of appropriate response actions in the event that hazardous materials are released or encountered during field activities.

APM HM-2. Emergency-spill supplies and equipment will be clearly marked and immediately available at all work areas. Oil-absorbent materials, tarps, and storage drums will be used to contain and control any minor releases. Detailed information for responding to accidental spills, and for handling any resulting hazardous materials, will be provided in the project's Hazardous Substances Control and Emergency Response Plan.

APM HM-3. An environmental training program will be established to communicate environmental concerns and appropriate work practices to all construction field personnel. The training program will emphasize site-specific physical conditions to improve hazard prevention, and will include a review of the Hazardous Substances Control and Emergency Response Plan and the Stormwater Pollution Prevention Plan (SWPPP).

Hydrology and Water Quality

APM WQ-1. All APMs will be on-site and ready for installation before the start of construction activities.

APM WQ-2. PG&E will develop a Stormwater Pollution Prevention Plan (SWPPP), as outlined in General Permit 2009-0009-DWQ, which will describe BMPs to prevent the acceleration of natural erosion and sedimentation rates. The SWPPP will include a written site-specific Construction Site Monitoring Program (CSMP). A monitoring program will be established to ensure that the prescribed BMPs are followed during project construction. BMPs will include:

- silt fences or other sediment containment methods placed around and/or down slope of disturbed areas prior to construction;
- protection of drain inlets from receiving polluted stormwater through the use of filters, such as fabrics, gravel bags, or straw wattles;
- installation of additional silt fencing prior to construction along the northwest and south edges of the proposed substation site to address unforeseen runoff from the property into the nearby existing mitigation bank/preserve and mitigation area;
- construction of a stabilized construction entrance/exit to prevent tracking onto roadway;
- establishment of a vehicle storage, maintenance, and refueling area, if needed, to minimize the spread of oil, gas, and engine fluids. Use of oil pans under stationary vehicles is strongly recommended; and
- no overnight parking of mobile equipment within 100 feet of wetlands, culverts, or creeks. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of wetlands,

<p>culverts, or creeks will be positioned over secondary containment.</p>
<p>APM WQ-3. A worker education program will be established for all field personnel prior to initiating fieldwork to provide training in the appropriate application and construction of erosion and sediment control measures. This education program will also discuss appropriate hazardous materials management and spill response.</p>
<p>APM WQ-4. All BMPs will be inspected on a weekly basis, and at least once every 24-hour period during extended storm events. BMPs will be inspected as described in the SWPPP, maintained on a regular basis, and replaced as necessary through the course of construction. For each inspection required, an inspection checklist will be completed using a form as described in Attachment C of General Permit 2009-0009-DWQ. This checklist will remain onsite with the SWPPP.</p>
<p>APM WQ-5. A Qualified SWPPP Practitioner will supervise placement of silt fencing at the boundary between the work area and wetland mitigation site to limit the area of disturbance during construction of the substation. The silt fence will be monitored regularly to ensure effectiveness.</p>
<p>APM WQ-6. Standard Urban Stormwater Mitigation Plan (SUSMP) features, e.g. vegetated bioswales and vegetated buffer strips, will be maintained around the perimeter of the substation pad.</p>
<p>APM WQ-7. The SPCC plan will include engineered methods for containing and controlling an oil release, including a water-collection system and retention pond equipped with an oil/water separator. Oil-absorbent material, tarps, and storage drums will be present on-site to contain and control any minor releases.</p>
<p><i>Noise</i></p>
<p>APM NO-1. All construction equipment will use noise-reduction features (such as mufflers) that are no less effective than those originally installed by the manufacturer.</p>
<p>APM NO-1. Construction will be limited to the hours between 7 a.m. and 7 p.m., Monday through Saturday, to the extent feasible. If nighttime work is needed because of clearance restrictions on the power line, PG&E take appropriate measures to minimize disturbance to local residents, including contacting nearby residences to inform them of the work schedule and probable inconveniences.</p>
<p>APM NO-1. Construction crews will limit unnecessary engine idling. (See Air Quality measures.)</p>
<p>APM NO-1. Construction crews will use equipment that is specifically designed for low noise emissions.</p>
<p>APM NO-1. Locate all stationary construction equipment as far as practical from noise sensitive receptors.</p>

Table A-2: Additional Avoidance and Protection Measures for Site 8

<i>Aesthetics</i>
APM AE-1. Additional landscaping comprised of trees and shrubs would be included along Herb Road and along the east edge of the site in the setback area from Old Redwood Highway to provide additional screening and reduce project visibility. Suggested plant material includes a mix of deciduous and evergreen native oaks. Landscaping under transmission lines would consist of smaller trees and/or shrubs to allow for overhead clearance. All planting would be consistent with PG&E operational requirements for landscaping in proximity to electric transmission facilities.
<i>Hazards and Hazardous Materials</i>
APM HM-4. If contaminated soils or groundwater due to VOCs, xylene, or other contaminants are encountered, appropriate abatement actions would be implemented in accordance with applicable regulatory requirements.
<i>Hydrology and Water Quality</i>
APM WQ-8. Permits may need to be obtained prior to construction from the Army Corps of Engineers (404), Regional Water Quality Control Board 401 Certification, and California Department of Fish and Game Streambed Alteration agreement (1600) if any identified jurisdictional waters are found within Alternative Site 8.
APM WQ-9. Construction work would avoid all wetlands, swales and drainages during construction. If waters areas could not be avoided, work would be performed outside of the wet season.
APM WQ-10. Vehicle maintenance wastes, including used oils and other fluids would be handled and disposed of properly. Fuels and lubricating oils for vehicles heavy equipment would not be stored or transferred within 100 feet of any waterbodies.

Table A-3: Additional Avoidance and Protection Measures for Site 3

<p><i>Aesthetics</i></p>
<p>APM AE-1: Landscaping comprised of trees and shrubs would be included along the west of the project and between the project and Patrick Lane, as allowed by the area available for the project. This would provide additional screening and would reduce project visibility. Suggested plant material includes a mix of deciduous and evergreen native oaks. All planting would be consistent with PG&E operational requirements for landscaping in proximity to electric transmission facilities.</p>
<p><i>Biological Resources</i></p>
<p>APM BIO-24. A wetland delineation per the ACOE Wetlands Delineation Manual would be conducted prior to construction. The delineation would use a three-parameter approach that includes an examination of vegetation, soils, and hydrology to determine the presence of wetlands. A wetland report would be prepared and submitted to the ACOE for verification. Through this process, final calculations of wetland area present in the project area would be obtained for project permitting.</p>
<p>APM BIO-25. Wetlands and aquatic resources would be denoted as environmentally sensitive areas and would be avoided during construction to the degree practicable. The permanent loss of seasonal wetlands resulting from project construction would be mitigated at a minimum ratio of 1:1 through:</p> <ul style="list-style-type: none"> • the purchase, restoration, and protection of severely degraded similar wetlands in the vicinity of the project; • the creation of new emergent and/or seasonal wetland from upland habitat within the vicinity of the project; and/or • the purchase from a mitigation bank of similar wetlands in the vicinity of the project.
<p><i>Hydrology and Water Quality</i></p>
<p>APM WQ-8. Vehicle maintenance wastes, including used oils and other fluids, would be handled and disposed of properly. Fuels and lubricating oils for vehicles and heavy equipment would not be stored or transferred with 100 feet of any waterbodies.</p>