

**Findings and Recommendations Pursuant to the Endangered Species Act and
Finding of No Significant Impact Pursuant to the National
Environmental Policy Act for Issuance of a Section 10(a)(1)(B)
Incidental Take Permit (TE 56826C) for Implementation of the Pacific Gas and Electric
Company Multiple Region Operations & Maintenance HCP
Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kern, Lake,
Lassen, Madera, Mariposa, Mendocino, Modoc, Monterey, Nevada, Placer, Plumas,
Sacramento, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra,
Siskiyou, Sutter, Tehama, Tulare, Trinity, Tuolumne, Yolo, and Yuba Counties California**

This document includes the U.S. Fish and Wildlife Service's (Service) Findings and Recommendations pursuant to the Endangered Species Act of 1973, as amended (Act), which provide an administrative record of how the proposed Pacific Gas and Electric Company Multiple Region Operations & Maintenance Habitat Conservation Plan (MRHCP) under review satisfies each of the permit issuance criteria under section 10(a)(2)(B) of the Act and in the Service's implementing regulations for the Act (50 CFR §17.22(b)(2) and 17.32(b)(2)). These Findings and Recommendations also include our responses to public comments received, and a recommendation for permit issuance or denial. Parts I – V of this document are relevant to these Findings and Recommendations.

This document also includes a summary of the *PG&E Multiple Region Operations and Maintenance Habitat Conservation Plan Environmental Assessment* (EA) conducted pursuant to the National Environmental Policy Act (NEPA) of 1969 (40 CFR §1506.6). It briefly presents why the EA (and other documents made available during the public comment period) supports our Finding of No Significant Impact (FONSI) and the reasons why the proposed action will not have a significant effect on the human environment. Parts I, II, and VI of this document are relevant to this FONSI. The proposed MRHCP and EA describe the project in detail, together with the conservation measures that would be implemented to avoid, minimize, and mitigate effects of 36 proposed Covered Species, including three distinct population segments.

I. DESCRIPTION OF THE PROPOSED ACTION

The Service proposes to issue an incidental take permit (ITP or Permit) to the Pacific Gas & Electric Company (Applicant), under the authority of section 10(a)(1)(B) and section 10(a)(2) of the Act, in 34 California counties: Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kern, Lake, Lassen, Madera, Mariposa, Mendocino, Modoc, Monterey, Nevada, Placer, Plumas, Sacramento, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Sutter, Tehama, Tulare, Trinity, Tuolumne, Yolo, and Yuba Counties. The Applicant seeks an ITP for 24 wildlife species (including three distinct population segments) in connection with routine operations and maintenance activities described in the proposed Pacific Gas and Electric Company Multiple Region Operations & Maintenance Habitat Conservation Plan (PG&E Multiple Region O&M HCP, MRHCP, or Proposed Action). An additional wildlife species that is currently not listed under the Act and 12 plant species are also included for coverage in the MRHCP. The applicant has requested a permit term of 30 years.

Upon the issuance of the Permit, the Applicant will receive incidental take authorization for take resulting from activities associated with operation and maintenance (O&M) of PG&E's natural-gas and electric transmission and distribution system (including limited minor expansion of certain facilities) in the 565,781-acre PG&E Multiple Region O&M HCP plan area, as summarized in the MRHCP submitted as part of the Permit application and identified in the Biological Opinion prepared by the Service (Service 2020a). The Applicant proposes to implement certain avoidance and minimization measures, and to provide compensatory mitigation when species effects cannot be avoided.

Alternatives Considered in the Environmental Assessment

The Service considered two alternatives in the EA: (1) the No Action; and (2) the Proposed Action. A number of other alternatives were also considered, but eliminated from further consideration for reasons described in Chapter 2, section 2.4, of the EA.

No Action Alternative

Under the No Action Alternative, the MRHCP would not be implemented, the proposed ITP would not be issued, and there would be no impact on biological communities, special-status species, or waters of the United States as a result of the action. PG&E would continue to implement its current operations and maintenance activities following its current environmental programs and practices, seeking permits on a piece-meal, as-needed basis. Take of Covered Species would occur in a relatively uncoordinated manner as a result of PG&E seeking take authorization for individual activities. The conservation strategy, including acquisition of mitigation lands set aside for Covered Species and protected in perpetuity, would not be implemented.

Proposed Action Alternative

The following 36 species are proposed for coverage under the Plan, where "(I)" identifies federally threatened species and "(E)" identifies federally endangered species. Species with a "(NL)" designation do not currently have a Federal listing status.

Wildlife

1. Blunt-nosed leopard lizard (*Gambelia sila*) (E)
2. California tiger salamander - Central California distinct population segment (DPS) (*Ambystoma californiense*) (I)
3. California tiger salamander - Santa Barbara DPS (*Ambystoma californiense*) (E)
4. California red-legged frog (*Rana draytonii*) (I)
5. Conservancy fairy shrimp (*Branchinecta conservatio*) (E)
6. Foothill yellow-legged frog (*Rana boylei*) (NL)
7. Giant gartersnake (*Thamnophis gigas*) (I)
8. Giant kangaroo rat (*Dipodomys ingens*) (E)
9. Longhorn fairy shrimp (*Branchinecta longiantenna*) (E)
10. Marbled murrelet (*Brachyramphus marmoratus*) (I)
11. Morro shoulderband snail (*Helminthoglypta walkeriana*) (E)
12. Mount Hermon June beetle (*Polyphylla barbata*) (E)
13. Mountain yellow-legged frog – Northern DPS (*Rana muscosa*) (E)

14. Northern spotted owl (*Strix occidentalis caurina*) (I)
15. Ohlone tiger beetle (*Cicindela ohlone*) (E)
16. Point Arena mountain beaver (*Aplodontia rufa nigra*) (E)
17. San Joaquin kit fox (*Vulpes macrotis mutica*) (E)
18. Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*) (E)
19. Smith's blue butterfly (*Euphilotes enoptes smithi*) (E)
20. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (I)
21. Vernal pool fairy shrimp (*Branchinecta lynchi*) (I)
22. Vernal pool tadpole shrimp (*Lepidurus packardii*) (E)
23. Yosemite toad (*Anaxyrus canorus*) (I)
24. Zayante band-winged grasshopper (*Trimerotropis infantilis*) (E)

Plants

1. Beach layia (*Luvia cornosa*) (E)
2. Ione manzanita (*Arctostaphylos myrtifolia*) (I)
3. Kern mallow (*Eremalache parryi* ssp. *kernensis*) (E)
4. Layne's ragwort (*Packera layneae*) (I)
5. Monterey gilia (*Gilia tenuiflora* ssp. *arenaria*) (E)
6. Monterey spineflower (*Chorizanthe pungens* var. *pungens*) (I)
7. Pine Hill ceanothus (*Ceanothus roderickii*) (E)
8. Pine Hill flannelbush (*Fremontodendron decumbens*) (E)
9. Robust spineflower (*Chorizanthe robusta* var. *robusta*) (E)
10. San Benito evening-primrose (*Camissonia benitensis*) (I)
11. Stebbins' morning-glory (*Calystegia stebbinsi*) (E)
12. Yadon's rein orchid (*Piperia yadonii*) (E)

Although take of plant species is not prohibited under the Act and, therefore, cannot be authorized under an incidental take permit, plant species described in the MRHCP would be included on the permits in recognition of the conservation benefits provided to the species. If at any time during the term of the Permit, any plant Covered Species becomes subject to the take prohibition under the Act, the Permit shall become effective as to that plant Covered Species and the Applicant shall receive incidental take authorization for that plant. Assurances provided under the "No Surprises" rule at 50 C.F.R. 17.3, 17.22(b)(5) and 17.32(b)(5) will extend to all Covered Species, including all plant Covered Species.

Permit Area

The PG&E Multiple Region O&M HCP contains a Study Area, and Plan Area, and an extended area known as the Integrated Plan Area. The study area contains the entire geographic area of PG&E's service area not currently covered by an existing HCP. The plan area is the 565,781 acres where PG&E's conduct Covered Activities. The Integrated Plan Area allows for mitigation of MRHCP Covered Activities across approved O&M HCP planning areas with USFWS approval, and consists of the area within the three PG&E Multiple Region O&M HCP regional planning areas plus the areas covered PG&E's Bay Area and San Joaquin Valley O&M HCPs. There will be no O&M activities other than those associated with managing mitigation sites within the Integrated Plan area. The Integrated Plan Area does not extend take authorization to Covered Activities outside the PG&E Multiple Region O&M HCP Plan Area, nor does it allow PG&E to mitigate within the

PG&E Multiple Region O&M HCP Plan Area impacts of Bay Area O&M HCP or San Joaquin Valley O&M HCP covered activities areas unless authorized by those plans.

The Multiple Region O&M HCP action area (Plan Area or Permit Area) includes portions of 34 counties including Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kern, Lake, Lassen, Madera, Mariposa, Mendocino, Modoc, Monterey, Nevada, Placer, Plumas, Sacramento, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Sutter, Tehama, Tulare, Trinity, Tuolumne, Yolo, and Yuba Counties. The Permit Area is the area in which the Permittee is requesting authorization from the Service for Covered Activities (see below) that may result in take of Covered Species. The Permit Area is land defined to include PG&E's gas and electrical transmission and distribution facilities, lands owned by PG&E and/or subject to PG&E easements for these facilities, private access routes to infrastructure associated with O&M activities, minor facility expansion areas, and mitigation areas for impacts resulting from Covered Activities.

Covered Activities

The Covered Activities are the otherwise lawful activities which are described in detail in Chapter 3 of the MRHCP, including the *Summary of Final Edits to PG&E's MRHCP* thereto, and the Biological Opinion (Service 2020a), are summarized below.

The Permittee is seeking incidental take coverage for ongoing O&M and minor new construction activities within the Permit Area and summarized below.

Operation Activities

Operation activities include inspecting, monitoring, testing, and operating valves, enclosures, switches, and other components of the gas and electrical transmission and distribution systems.

Maintenance Activities

Maintenance activities include repairing and replacing facilities, structures, and access roads. This work includes reconductoring electric transmission and distribution projects and gas pipeline replacement. These activities also include emergency repair and replacement of facilities and structures, and vegetation management, including tree pruning and removal.

Minor New Construction

These activities include installing new or replacement structures to upgrade existing facilities or extend service to new residential or commercial customers. When conducted in natural vegetation or agricultural lands that contain suitable habitat for Covered Species, upgrades to existing facilities and new electric or gas line extensions are limited to 2 miles or less from an existing line. End-to-end extensions exceeding 2 miles would not be covered under the PG&E Multiple Region O&M HCP. Multiple 2-mile extensions in different geographic areas would be covered, but each would be treated as a separate activity. The size of a minor new construction project would be estimated as the total footprint, expressed in acres. Consistent with the requirements of NEPA, the PG&E Multiple Region O&M HCP would not allow segmentation of proposed construction to obtain coverage under the PG&E Multiple Region O&M HCP. New or replacement structures to upgrade existing facilities are limited 10 acres or less per electric substation expansion, while pressure limiting stations

are expected to usually be less than 0.10-acre, although there is no hard limit. Pipeline and electric line extensions are capped at 2-miles in length. While multiple 2-mile extensions are covered as part of this activity, they must be separate projects and cannot be constructed end-to-end to result in an extension greater than 2 miles in length.

Emergency Work

The PG&E Multiple Region O&M HCP covers performing a Covered Activity described in Chapter 3 in an emergency. When possible, all applicable avoidance measures described in Chapter 5 of the PG&E Multiple Region O&M HCP will be implemented, but there may be times where surveys for species or other AMMs described in Chapter 5 cannot be performed when responding to an emergency.

HCP Coverage for Third Parties

The Applicant is seeking incidental take coverage associated with the implementation of Covered-Activities by all independent contractors or other third parties if the third party has executed a contract with PG&E that contains enforceable provisions committing the third party to comply with all provisions of the MRHCP. Since PG&E is the Permittee, PG&E would remain ultimately responsible for all activities carried out by third parties.

HCP Coverage for Mitigation Activities

The Applicant is also seeking incidental take coverage associated with the acquisition, establishment, and management of compensation lands and conservation easements in furtherance of the Plan's compensation objectives, including biological surveys, as well as the management activities carried out by any independent land manager with whom PG&E has contracted to perform the activities on PG&E's behalf.

Activities Not Covered in the Permit

The MRHCP specifically does not cover the following: (1) application of herbicides, rodenticides, or fungicides; (2) federally-listed species that may occur within the action area that are not identified as a Covered Species; (3) any activities undertaken by PG&E or an authorized third party that are not Covered Activities under the MRHCP; (4) PG&E activities on any PG&E facilities outside the action area defined in the Service's Opinion; and (5) the expansion of permanent PG&E facilities unrelated to maintenance, repair, or operation of existing gas pipelines and electric transmission/distribution lines within the action area.

Relationship of Plan to Section 7 Consultations

Covered Activities under the MRHCP may also be subject to separate section 7 review if those actions are authorized, carried out, or funded by federal agencies. Incidental take for Covered Activities carried out by the Applicant will be subject to the take mitigation, minimization, avoidance and other measures provided for under the MRHCP. To the extent that Covered Activities involving a federal nexus are determined to affect federally listed species or adversely modify designated critical habitat and would, as such, require a section 7 consultation with the Service under the Act, incidental take coverage would occur through the section 7 process. Furthermore, federal

agencies do not receive “No Surprises” assurances and may be required to provide additional compensation or minimization measures to offset the effects of projects that require federal permits.

Biological Goals and Objectives

The PG&E Multiple Region O&M HCP biological goals and objectives are organized by maintaining, preserving, or obtaining high-quality habitat with direct benefits for Covered Species. These goals and objectives provide the framework for developing an integrated conservation strategy that identifies specific management and minimization actions. Associated biological goals and objectives for the conservation strategy are as follows.

Goal 1: Maintain habitat quality for covered species in the Plan Area by restoring disturbed areas.

Objective 1.1: Recontour and reseed areas of temporary habitat disturbance that are greater than 0.1 acre with a commercial native grassland seed mix, or a mix otherwise appropriate for the site being restored, within 1 year and prior to the onset of the next rainy season. Validate a set of these activities to ensure these lands recover.

Goal 2: Contribute to the network of permanently protected and managed lands in the study area that support populations of covered species.

Objective 2.1: Increase the amount of lands protected or managed for covered species adjacent to existing protected areas (e.g., preserves, mitigation banks, and protected watersheds) or within areas identified as having high priority for conservation through mitigation purchases over the permit term. Table 5-4 lists mitigation acreage totals for each covered species.

Objective 2.2: Protect at least 2,000 acres of habitat for covered species within the first 10 years of the permit.

Goal 3: Pursue conservation actions that result in the creation, restoration or enhancement of habitat that benefits covered species.

Objective 3.1: Create, restore, and enhance habitat as outlined in Table 5-4.

Objective 3.2: Contribute to at least 20 acres of habitat enhancement and restoration over the first 10 years of the permit for covered species via in-kind services or monetary contributions.

Conservation Strategy

The biological focus of the PG&E Multiple Region O&M HCP is to maintain, preserve, and obtain high-quality habitat to provide direct benefits to Covered Species. The conservation strategy is guided by five principles: emphasis on avoidance over mitigation of habitat effects, avoidance and minimization maximized by thorough pre-project internal review processes, preservation of lands with high-quality habitat or of high conservation value, preservation of large, contiguous areas of habitat rather than many small areas, and ensuring mitigation is preserved into perpetuity. The implementation of this approach is expected to result in long-term benefits to Covered Species.

Details regarding the proposed mitigation and minimization measures can be found in Chapter 5 of the Plan. As required under the No Surprises Rule (50 CFR Parts 17 and 22 as modified on February 28, 1998), unforeseen and changed circumstances are also addressed and are discussed in more detail later in this document. The conservation strategy is summarized below:

Environmental Review, Planning, and Screening

The Applicant's avoidance and minimization strategy is dependent upon early planning and review of activities. Early screening allows the applicant's biologists and land planners to redesign or reconfigure various Covered Activities by adjusting or changing access routes, relocating or modifying work areas, minimizing the size of work sites, modifying work practices, and adjusting or changing work periods. The Environmental Review, Planning, and Screening process is further described in Chapter 5, in section 5.4. of the MRHCP, and in Chapter 6, in section 6.2.

Modeled Habitat Approach

The MRHCP's conservation strategy depends heavily upon habitat models that have been developed for each Covered animal Species. Habitat models have been incorporated into the MRHCP to streamline the implementation process for Covered Activities, while at the same time capturing incidental take of Covered Species that will occur as a result of Covered Activities. Habitat models were developed utilizing existing commercial data and biological information to assess the likelihood that a Covered Species or its habitat is present at a particular location. PG&E worked closely with the Service to develop and refine the habitat models. The type of modeled habitat that will be affected informs the Applicant's land planners or biologists on how to prescribe the appropriate avoidance and minimization measures (AMM) or best management practices (BMP). The Applicant's biologists and land planners will review the modeled habitat information in the company's GIS system to assess whether a Covered Activity falls within or close to modeled habitat, identify the modeled habitat that will be affected, and identify the location of Map Book zones and hot zones (explained in Sections 5.4.1, 5.4.2, and summarized in the following sections).

Many of the Covered Activities are anticipated to affect less than 0.10-acre per activity. The Applicant has provided estimates of habitat loss and disturbance expected to result from Covered Activities. Certain Covered Activities are expected to result in very small amounts of disturbance of habitat (see Chapter 3 of the MRHCP for descriptions of activities G3a, G3b, G5, G8, E5, E6a, E6b, E7, E8a, E8b, E9b, E10b, E10c, E11a, and E11b; and see Chapter 4, Table 4-1 for estimated temporary and permanent habitat loss by activity). Habitat loss and disturbance resulting from these activities that occurs in modeled habitat will not be actively restored in the field; instead, mitigation will be provided for these activities based upon the pre-determined disturbance estimates. The Applicant will periodically evaluate a small subset of these activities to ensure that average on-the-ground effects are not larger than estimated, as well as to ensure that temporary effects are not, in practice, permanent effects.

Descriptions of modeled habitat, as well as figures depicting areas of modeled habitat, including critical habitat, for each species, are found in Chapter 4 of the MRHCP.

Vegetation Best Management Practices

The Applicant has proposed an extensive set of BMPs to implement during vegetation management activities, listed in Table 5-2 of the MRHCP. These measures are not necessarily intended to reduce or avoid take of Covered Species, but in some cases may nonetheless result in avoidance or minimization. For example, BMP 10 requires that vehicles and equipment be refueled offsite. This measure is part of the Applicant's standard operating procedure, and isn't intended to reduce take, but by avoiding spilling toxic fuels in habitat for Covered Species, the BMP may result in reduced effects and/or take of listed species by avoiding unnecessary pollution of their habitat. Vegetation Management BMP implementation is also discussed in section 5.5.1.4.

Field Protocols

Although the applicant intends to mitigate effects within map book zones, the Applicant has also proposed 19 Field Protocols (see Table 5-1), that will apply to all Covered Activities performed in areas of modeled habitat. These field protocols are expected to minimize take of Covered Species within modeled habitat. Table 5-3 of the MRHCP further describes which activities are subject to Field Protocols, as well as other AMMs.

Species Specific Avoidance and Minimization Measures

Certain Covered Activities will require the implementation of a set of 9 animal-targeted species-specific AMMs for activities greater than, and 2 habitat-specific AMMs that target invertebrates and amphibians associated with wetlands and vernal pools; these AMMs will apply to activities greater than 0.10-acre. The species targeted for avoidance by these AMMs are the blunt-nosed leopard lizard, covered amphibian species, giant gartersnake, giant kangaroo rat, marbled murrelet, Mount Herman June beetle, northern spotted owl, San Joaquin kit fox, Smith's blue butterfly, valley elderberry longhorn beetle, and covered vernal pool invertebrates.

Hot Zones

Hot Zones are well-defined and relatively small areas containing an extant population of covered wildlife species, where the species would most likely be affected by Covered Activities. Hot Zones exist for the Conservancy fairy shrimp, longhorn fairy shrimp, Morro shoulderband snail, Ohlone tiger beetle, Point Arena mountain beaver, Santa Cruz long-toed salamander, and Zayante band-winged grasshopper. All modeled habitat for these species is a Hot Zone.

All activities in Hot Zones, regardless of size, will be required to avoid and minimize take of Covered Species by implementing appropriate Hot Zone Avoidance and Minimization Measures (listed in Table 5-1), in addition to implementing appropriate species-specific AMMs, field protocols, and vegetation management BMPs.

Map Book Zones

Similar to Hot Zones, a map book zone is an area of extant, known, or recently confirmed plant occurrences. Specific AMMs, described in MRHCP Table 5-1, are required for activities occurring in Map Book Zones, along with all applicable vegetation management BMPs, Species Specific AMMs, and Field Protocols. Map book zones are described in detail in MRHCP section 5.4.2.

Mitigation

The applicant will fund the acquisition, enhancement, management, and restoration of habitat by qualified third parties to mitigate and promote the recovery of Covered Species in the Permit Area. Proposed mitigation is subject to Service review and approval. Habitat preservation will be considered complete when the Service approves a conservation easement, a management plan, the endowment, and the easement holder. Habitat enhancement and restoration efforts may be implemented in partnership with local or regional land trusts where land is already protected but funding or management is lacking to promote species conservation and recovery. Habitat mitigation is described in Chapter 5, section 5.6.

The MRHCP allows PG&E to mitigate after covered activities have taken place; however, such after-the-fact mitigation is constrained by the Stay Ahead Provision described in Chapter 5, section 5.6.1.2. The process by which PG&E may debit from its available mitigation is described in section 5.6.7 of the MRHCP. In most cases PG&E will provide habitat mitigation in advance of effects on Covered Species. If PG&E cannot, PG&E will provide additional mitigation of 1:1 for permanent habitat loss and 0.5:1 for temporary habitat loss. Additionally, the Stay Ahead provision does not allow PG&E to fall into arrears on mitigation for more than two years. The Applicant will base its mitigation on acreages of estimated and actual habitat losses, and will adjust the timing of acquisitions based on forecasted habitat effects and the amount of mitigation that has previously been implemented. PG&E will provide mitigation for both permanent and temporary effects on modeled habitat. The selection, preferable location, and management of mitigation lands is described in section 5.6.6 of the MRHCP.

Effects on habitat will be mitigated with equivalent or higher-value habitat consistent with the land-cover and habitat data developed for the species that is described in Chapter 2 of the MRHCP. PG&E may provide habitat mitigation through the following mechanisms (in order of preference).

- Purchase of high-quality habitat.
- Purchase or placement of conservation easements on land appropriate for maintaining Covered Species corridors.
- Purchase of credits from approved mitigation or conservation banks.
- Partnerships with and/or contributions to existing conservation planning and recovery efforts.
- Placement of conservation easements on existing PG&E lands.
- Implementation of and contributions to recovery plan strategies.
- Habitat enhancement and restoration on lands already protected.

Mitigation of Temporary vs. Permanent Habitat Loss

1. Permanent Habitat Loss

Results from any of the following activities or conditions:

- New facilities located in a new ROW (i.e., minor new construction).
- Conversion of the existing land cover type suitable for a Covered Species to a developed land cover type or to a habitat type that would no longer be available for a Covered Species.
- Any activity that causes an effect lasting more than 12 months.
- ROW expansion or management that results in land cover type conversion.
- A long-term, substantial increase in the frequency and magnitude of human-related disturbances such that the habitat is no longer available to the species.

Covered Activities that could result in permanent habitat loss include gas pipeline maintenance and replacement, pole replacements, substation expansions, some vegetation management activities (e.g., ROW clearing), and construction of new permanent access roads where existing roads cannot be utilized or restored.

PG&E will mitigate permanent effects on modeled habitat for Covered Species at a 3:1 ratio (3 acres mitigated for every 1 acre permanently impacted), except for VELB, at a 2:1 ratio, and San Joaquin kit fox moderate-value and low-value habitat, which will be mitigated at 1:1 and 0.5:1, respectively.

2. Temporary Habitat Loss

Temporary habitat loss is attributed to Covered Activities that involve excavation, grading, equipment staging, or stockpiling of soil that alters existing vegetation, soils, topography, and hydrology for a period of days, weeks, or months, but no longer than 12 months. Temporary impacts on plants are defined as pruning or temporarily removing topsoil and seedbank—activities that usually allow the plants to recover. The Applicant will provide permanent mitigation, protected into perpetuity, for temporary to offset the effects of temporary habitat loss. Mitigation for temporary habitat loss will be provided at the following ratios:

- Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, Zayante broad-banded grasshopper, and Morro shoulder-banded snail will be mitigated at a 0.5:1 ratio.
- Valley elderberry longhorn beetle will be mitigated at a 0.25:1 ratio.
- Breeding habitat for California tiger salamander (both Central California and Santa Barbara DPS) will be mitigated at a 1:1 ratio.
- Upland habitat for California tiger salamander (both Central California and Santa Barbara DPS) will be mitigated at a 0.5:1 ratio.
- Breeding habitat for California red-legged frog, foothill yellow-legged frog, and Santa Cruz long-toed salamander will be mitigated at a 1:1 ratio.
- Upland habitat for California red-legged frog and Santa Cruz long-toed salamander will be mitigated at a 0.5:1 ratio.

- Dispersal habitat for foothill yellow-legged frog will be mitigated at a 0.5:1 ratio based on actual site-specific habitat impacts.
- Suitable habitat for Sierra Nevada yellow-legged frog, mountain yellow-legged frog, and Yosemite toad will be mitigated at a 0.5:1 ratio.
- Giant garter snake aquatic habitat will be mitigated at a 1:1 ratio and at a 0.1:1 ratio for upland and rice habitats.
- Suitable and core habitats for blunt-nosed leopard lizard will be mitigated at a 0.5:1 ratio.
- Suitable habitat for marbled murrelet and northern spotted owl will be mitigated at a 0.5:1 ratio.
- Suitable habitat for Point Arena mountain beaver will be mitigated at a 0.5:1 ratio.
- Suitable habitat for giant kangaroo rat will be mitigated at a 0.5:1 ratio.
- San Joaquin kit fox will be mitigated at a ratio of 0.5:1 for high-value habitat and 0.1:1 for low- and moderate-value habitats.

3. Permanent and Temporary Effects on the Valley Elderberry Longhorn Beetle

Permanent loss of VELB habitat:

Any Covered Activity that results in removal of an entire elderberry shrub with at least one stem greater than 1-inch diameter at ground level will be counted as a permanent impact on one shrub.

Temporary impact on VELB habitat:

Any covered activity that results in pruning of one or more elderberry shrub stems greater than 1-inch diameter at ground level, where pruning is at 6-feet or below in height, when the plant is left in place will be counted as a temporary impact. Any covered activity that results in pruning of elderberry shrub stems, regardless of stem diameter, beyond 6 feet above ground level during the months of March through May, will also be counted as a temporary impact.

Operations and maintenance activities that result in permanent or temporary impacts will be overseen by a qualified individual, who will also make stem size determinations and collect other relevant information pertaining to the facility involved, location, and date of the impact. These activities are considered necessary for safe and reliable utility operations and must be conducted throughout the year. Shrubs in riparian and non-riparian habitats can be affected, and take of VELB beetles, pupae, larvae, or eggs could result regardless of whether the activity results in temporary or permanent impacts on VELB habitat.

All permanent and temporary impacts will be tracked at the shrub level in PG&E's existing VELB database. This database receives and stores inputs from hand-held field devices that track vegetation maintenance recommendations for trees, shrubs, and brush that may encroach facility rights-of-way. Once vegetation is recommended for removal and removal crews are scheduled, the impacts on elderberry shrubs are noted as completed, whether resulting from permanent

removal or pruning, according to the definitions above. The VELB database is used to track the general location, date and type of elderberry shrub impact and will generate an annual summary of such impacts, which will be included in the MRHCP annual report

4. Permanent loss of Covered Plants

- For permanent impacts, PG&E will provide mitigation in one of the following ways.
 - Planting offsets: For every annual, perennial, or manzanita plant that is permanently impacted, PG&E will provide mitigation at a 3:1 ratio. This ratio is intended to ensure that 1 plant is established and protected for every 1 plant permanently impacted.
 - For every acre or square foot of permanent impact, PG&E will provide mitigation at a 1:1 ratio.

If impacts on perennial species are unavoidable, PG&E will salvage individual plants in advance of the impact and replant them within the ROW. Similarly, if impacts on annual plant species are unavoidable, PG&E will salvage topsoil and replace it within the ROW. PG&E will monitor the success of the replanting of perennial species and recovery of annual species for 3 years, unless the species is shown to have recovered sooner. If during this time the number of individual plants is not equal to or within normal variation of the number of individuals originally removed, then PG&E will pursue other mitigation options to ensure that mitigation is implemented at the appropriate ratio. Mitigation options for impacts on perennials may include propagation of replacement stock for planting in suitable habitat within the ROW, where it will not conflict with operation or maintenance of utility facilities. For other plant species, options are dependent on habitat requirements and the availability of mitigation opportunities.

- Wetland plant species: purchase easements or land that benefits plants and consistent with acquisitions made for wildlife species.
- Annual plant species: partner with other organizations that are working to enhance and restore habitat for rare or endangered plants.

For activities impacting more than 0.1 acre in Map Book zones and for which AMMs are ineffective or cannot be implemented, PG&E will submit a restoration plan that includes the following information: an assessment of the impact site; methods for collecting, storing, or propagating plant material from the impact site; information on site preparation and reintroduction of collected plant material; measurable success criteria that can be achieved within a 3-year period; adaptive management measures to ensure the desired success criteria are achieved; monitoring and reporting methods and schedules; funding source and responsible parties; and the acreage or number of individual plants expected to benefit from implementing the restoration plan.

Additional measures could include (1) relocating aboveground facilities away from occupied habitat (but still within and subject to existing easements) on a case-by-case basis if feasible and allowable for safe and reliable operations; or (2) removing noxious weeds to expand habitat for annual species. If a conservation easement is not feasible for these lands because private owners are unwilling, PG&E will comply with the success criteria to ensure the population persists. USFWS approval of

the plan and success criteria will be required.

Types of Mitigation

The Applicant has proposed several options to meet its mitigation obligations, all of which require prior approval from the Service.

A. Fee Title and/or Conservation Easements

The applicant may purchase lands in fee. Lands purchased in fee will be protected through a conservation easement or equivalent site protection mechanism approved by the Service, and will include a management plan and associated endowment. In most cases, the Applicant will not own or manage mitigation sites, but will have qualified land conservation organizations hold title or easement and manage the property. Either PG&E or the land conservation organization may also conduct enhancement or restoration activities on these lands to make them more suitable for covered species.

The Applicant may purchase conservation easements from willing. A Service-approved management plan and associated endowment will also be included. In addition to acquiring easements from willing landowners, the Applicant owns several parcels of land that have high conservation values and that may be suitable for mitigation through this method. The approval process for fee title and easement acquisitions is described in more detail in section 5.6.4.1 of the MRHCP. The amount of acres that will be available to PG&E as mitigation for fee title or easement acquisitions is discussed section 5.6.5.1 of the MRHCP.

B. Conservation Partnerships

The Applicant may partner with conservation organizations to further regional conservation efforts. In the study area, many local, state, and federal government organizations and nonprofit organizations (including land trusts and special districts) make species or habitat conservation part of their mission. PG&E funds contributed to land acquisition or management will serve as mitigation. Further, several regional, multiple-species HCPs/NCCPs and conservation strategies have been adopted in the Plan Area, to which PG&E could contribute finances or in-kind services. These types of contributions to regional conservation planning efforts have the advantage of building on or expanding existing species-focused conservation with immediate benefit to covered species. The approval process for conservation partnerships is discussed in section 5.6.4.2 of the MRHCP, and the amount of acres that will be available to PG&E as mitigation for Conservation Partnerships is discussed section 5.6.5.2 of the MRHCP.

Financial and In-Kind Contribution to Local Land Managers

Many federal, state, and local land managers have missions that include the protection and conservation of endangered species. The Applicant may contribute to these efforts by making financial or in-kind service contributions to these organizations if, with Service approval, these contributions are shown to have direct benefits to Covered Species. This type of mitigation will have a discrete timeline for implementation of the restoration project, will result in restoration or habitat enhancement with a demonstrable benefit to Covered

Species.

Financial and In-Kind Contribution to Restoration Efforts

Extensive restoration activities by various agencies are underway in the Plan Area that the applicant may aid with financial or in-kind service contributions. Although there are currently no credits for some species, additional conservation/mitigation banks will likely be created and approved over the next 30 years, expanding the number of covered species for which credits would be available. Upon USFWS approval of the bank, PG&E may purchase credits from these banks to mitigate its impacts. In addition, on a case by case basis subject to USFWS approval, PG&E may obtain mitigation credits created as part of a CDFW Regional Conservation Investment Strategy (RCIS). The physical location of any conservation bank must be within the Plan Area or Integrated Plan Area.

C. Conservation/Mitigation Banks

The Applicant may purchase credits from a conservation or mitigation bank with the approval of the Service. The approval process for acquiring credits at conservation/mitigation banks is described in more detail in section 5.6.4.3 of the MRHCP. The amount of acres that will be available to PG&E as mitigation from bank credit purchases is discussed section 5.6.5.3 of the MRHCP.

D. Habitat Enhancement and Restoration

The Applicant may consider enhancement or restoration projects to serve as mitigation. This approach will be implemented in instances where other mitigation approaches are unavailable or may not be reasonably achieved. For example, there may be limited or no opportunity for purchase of fee title lands or easements for narrow endemic species such as Morro shoulderband snail, Zayante band-winged grasshopper, Santa Cruz long-toed salamander, and most covered plants. In these instances, the Applicant may fund specific enhancement and restoration projects to benefit those species. Examples of habitat enhancement or restoration efforts to promote recovery include removing invasive species that are inhibiting recovery. In some instances, other restoration enhancement and restoration efforts for more common species may also serve as mitigation; examples include dredging ponds to make them more suitable for California red-legged frog, creating new aquatic habitat, or contributing to bullfrog eradication efforts. The Applicant will work closely with the Service to gain agreement on the number of mitigation credits that will be generated from an enhancement or restoration activity before fully committing any financial resources. Enhancement or restoration would create credits that the Applicant would be able to use in the future to offset future impacts on covered species. The approval process for Habitat Enhancement and Restoration is described in section 5.6.4.4 of the MRHCP, and the amount of acres that will be available to PG&E as mitigation from bank credit purchases is discussed section 5.6.5.4 of the MRHCP.

Biological Surveys and Monitoring

Because habitat modeling works in conjunction with covered activity classification (and predefined quantities of permanent and temporary impacts) to determine potential impacts and resulting

mitigation requirements, biological surveys and monitoring will be limited for most, if not all, small covered activities. However, for larger gas activities (G4, G7, G9, G10, G11, G12, G13a, G14, G15) and electric activities (E4, E9a, E9b, E10d, E10f, E12, E13, E14, and E15), biologists will conduct site assessments and assist planners in pre-project planning. Such planning includes establishing appropriate locations for laydown areas, access routes, and exclusion zones. For these larger activities, PG&E biologists also evaluate activities in modeled habitat, Hot Zones, and Map Book zones and determine the need for more focused surveys or monitoring.

When a biological monitor is required for a covered activity, the monitor may prescribe additional site-specific AMMs and is authorized to stop work if a covered species is observed and if work may harm a covered species. Biological monitors will assist with the identification and implementation of exclusion zones, work zones, and access routes. The biological monitor will ensure that all construction employees adhere to the species- and site-specific AMMs and BMPs and that observations of special-status species before, during, or after construction, are documented and submitted to the CNDDDB with landowner approval.

HCP Implementation

Implementation of the PG&E O&M HCP is described in Chapter 6 of the MRHCP; however, Chapters 5 and 6 both describe different aspects of implementation, such as when and how to implement various AMMs, which is described in Chapter 5. This section summarizes implementation items discussed in Chapter 6 of the MRHCP.

Implementation Structure and Staffing

The Applicant's Environmental Management group is responsible for environmental planning and permitting of all utility infrastructure and projects. The Environmental Management group will be responsible for the overall management of the MRHCP through a dedicated team of employees that will implement the program. The MRHCP team will include an MRHCP administrator and land planning analysts. Direct support to the MRHCP team will come from company-wide land planners and biologists who will work with the MRHCP team to ensure successful implementation and compliance of the MRHCP. Biological monitors and field crews will have direct roles for implementing and following AMMs in the field. Individual staffing units and their respective responsibilities are described further in section 6.1.1 of the MRHCP.

Implementation Tasks

Implementation tasks are described in both Chapter 5 and Chapter 6 of the MRHCP, with Chapter 5 largely focusing on how and when AMMs will be implemented, and how mitigation will be calculated, while Chapter 6 discusses implementation tasks largely to be conducted by the Applicant within its own internal hierarchy. Chapter 6's tasks are summarized below.

1. Education and Training

The Applicant's staff, and contractors acting on behalf of the applicant, will be given annual training and project-specific training.

Annual training is broad and will cover multiple aspects of the MRHCP Covered Activities, Covered Species, AMMs, compliance, and the conservation strategy. The targeted audience includes construction crew members, project managers, land planners, land management staff, construction contractors, and environmental management staff. Annual training will be conducted either in-person or as computer-based training.

Project-specific training (i.e., tailboards) is specific to a given project and will be provided to staff working on Covered Activities for which AMMs are required, when work is conducted in a Hot Zone, when species-specific AMMs are required on large projects, and as required when PG&E is working in Map Book zone areas.

Training will also be provided for staff on an as-needed basis throughout the implementation of the MRHCP. As-needed training could address implementation, use of habitat models, methods for standardizing field work, prescription of FPs and AMMs, and other topics.

2. Environmental Review, Planning, and Screening

The Applicant will continue to conduct its environmental review, planning, and screening processes for ongoing O&M work activities. These standard operating procedures provide the foundation for ensuring work is conducted in a manner that avoids and minimizes impacts on the environment and natural resources. In addition to compliance with MRHCP requirements, land planners and biologists ensure that all environmental, regulatory, and land management requirements are followed. Section 6.2.2 of the MRHCP describes the implementation of the Environmental Review, Planning, and Screening Process.

3. AMM Implementation

As part of the initial MRHCP implementation training, Environmental Management staff will be trained on the AMMs and vegetation management BMPs as described in Chapter 5, Section 5.5.1, *Avoidance and Minimization of Impacts*. PG&E will implement field protocols and AMMs. PG&E will conduct an assessment and review of its AMMs and vegetation management BMPs, as described under Section 6.3.3, *Effectiveness Monitoring*, to determine if they are performing as anticipated. Section 6.2.3 of the MRHCP describes the implementation of AMMs and general restoration efforts.

4. Plant Salvage, Restoration, and Monitoring

For activities affecting more than 0.1 acre in Map Book zones for which AMMs are ineffective or cannot be implemented and permanent loss of covered plants will result, a biologist will develop a site-specific plant restoration plan. Requirements for restoration plans, plant salvage, and monitoring of such efforts are discussed in section 6.2.4 of the MRHCP.

5. Mitigation Accounting

The Applicant will keep track of the acres of habitat acquired, its location, and the species benefiting from the mitigation. The Applicant will also account for the acres of habitat debited from mitigation lands. The Applicant will track the types of habitat acquired, and identify any issues associated with the habitat acquisitions or management. If there are acquisition or

management issues, the Applicant will work with the Service to adjust the acquisition process or clarify management decisions.

6. Monitoring

The Applicant has proposed to monitor compliance, the effects of implementation, and the effectiveness of meeting the biological goals and objectives.

Compliance monitoring will document whether or not the environmental planning, review, and screening process is occurring and effective; confirm that the education and training program for the Applicant's staff and contractors is being implemented properly; ensure that required education and training is being conducted; confirm that biological surveys and monitoring are conducted, including implementation of AMMs and BMPs; and provide an accounting of effects and mitigation.

Effects monitoring will track the effects of Covered Activities on habitat for Covered Species, allowing the applicant and the Service to verify that effects are in-line with the assumptions and estimates used to develop the MRHCP, largely discussed in Chapter 4 and presented in table 5-3 of the MRHCP. The applicant's HCP team will confirm that estimates for small activities are accurate by conducting validation studies in years 5 and 10 of MRHCP implementation, as described in section 6.3.2 of the MRHCP. If the Applicant and the Service agree that these validation studies are unnecessary or ineffective, they may agree to reprioritize the Applicant's resources to other areas of effects monitoring.

Effectiveness monitoring will track and assess how well the biological goals and objectives are being met. The Applicant's HCP team will collect, compile, and summarize data from the land planners and biologists regarding completed Covered Activities, biological surveys, monitoring reports, release to construction documentation, and other information to evaluate overall effectiveness of the program. The HCP team will evaluate the implementation program to determine if it is operating as anticipated, whether or not there are non-cost prohibitive changes that are consistent with the Applicant's permit, which would increase effectiveness. The HCP team will also identify instances where AMMs were unsuccessful or infeasible, and if so, why they were unsuccessful or not implemented, and the Applicant will coordinate with the Service and other stakeholders to analyze whether or not any parts of the program are not working, and what parts are working well.

The Applicant's HCP team will also monitor its mitigation program to make certain that mitigation lands will contribute to a network of permanently protected and managed lands, and to ensure that these lands are, and continue to be, of benefit to Covered Species, consistent with biological goals 2 and 3, respectively.

7. Reporting

The Applicant's HCP team will prepare annual reports to document permit compliance and implementation of the conservation strategy. Each annual report will summarize the previous calendar year's activities and will be completed by June 1 following the reporting year. The Applicant will submit annual reports to designated representatives of the Service. Contents of annual reports are described in section 6.4 of the MRHCP.

Effects and Disturbance Accounting

The Applicant's HCP team will keep a running total of annual covered activity impacts and covered species take, including impacts on critical habitat, over the permit term. As described in Chapter 5, Conservation Strategy, and shown in Figure 5-2 and Table 5-3, the determination of impacts resulting from covered activities is based on estimated or actual on-the-ground impacts recorded after the activity is completed. The HCP team is responsible for recording temporary and permanent impacts as reported by the land planners and biologists, as well as the data collected from internal data systems. For wildlife habitat impacts, PG&E will record habitat losses in acreage to the nearest hundredth of an acre, or square feet, whichever is necessary to capture the entire impact. For covered plant species, PG&E will record habitat losses as acreage to the nearest hundredth of an acre, or square feet, whichever is necessary to capture the entire impact; as individual plant losses; or both. If planners or biologists determine restoration plans are ineffective and impacts are reclassified as permanent, these impacts will also be tracked and mitigated.

Mitigation Accounting

The Applicant's HCP team will use the estimated habitat loss acreages in Table 4-1 of Chapter 4 and actual impact determinations for projects reported from land planners and biologists (see Table 5-3 in Chapter 5) to calculate the mitigation that is required to offset the prior years' impacts by species (as described in Section 5.6, Habitat Mitigation). Temporary and permanent impacts for the reporting year will be mitigated using: (1) the affected species modeled habitat or the actual habitat disturbed if site-specific assessments or surveys are conducted, and (2) the ratio of compensation for that species based on whether the impacts are temporary, or permanent and whether PG&E is adhering to its stay ahead obligations. The HCP team will use an internal mitigation accounting reporting system (MARS) or similar tool to keep track of all annual impacts and the mitigation required as part of the conservation strategy. MARS will track and deduct "species-acre credits" from approved mitigation acquisitions. If planners find that temporary impacts need to be reclassified as permanent, the data will be updated in MARS.

8. Adaptive Management of Mitigation Lands

Adaptive management is a necessary component of habitat conservation plans to ensure the effective management and protection of mitigation lands. In the context of the MRHCP, adaptive management will focus on managing mitigation lands for the benefit of covered species. For each management plan a non-wasting endowment is calculated based on a property analysis record- (PAR-) like funding analysis. Each endowment will include 0.5% of the total endowment to allow for adaptive management. Adaptive management actions will likely take place at the following junctures.

1. In response to downward trends in the status of covered species or habitat suitability.
2. When monitoring indicates that the expected or desired result of a management action did not occur.

In these cases, new actions would be implemented to try to improve the outcome for species and their habitat. Such actions could include the following.

- Alter the timing, location, intensity, or type of grazing.
- Reduce, increase, or otherwise change the pattern of management actions.
- Modify the timing, location, or type of restoration.
- Modify the approach to noxious weed control.
- Modify species-specific measures based on monitoring results (e.g., bullfrog eradication technique).

As described in Chapter 5, Section 5.6.6.3, *Mitigation Management Plans*, most land management will focus on simple and proven management and enhancement actions. Adaptive management decisions will be based on the data collected as part of ongoing monitoring and management.

Changed Circumstances

Changed circumstances evaluated in the MRHCP include a range of human and natural factors that could adversely affect Covered Species and the value of the mitigation lands. Specific factors analyzed in the MRHCP include vandalism, fire, floods, landslide and wind/water erosion, earthquakes, drought, climate change, invasive species, and diseases and pathogens. Changed circumstances will be addressed through the adaptive management provisions or the implementation of remedial measures described for each changed circumstance in section 6.6.1.1 of the MRHCP. The Applicant would be required to provide planned responses to the changed circumstances identified in the MRHCP in accordance with the Service's "No Surprises" rule at 50 C.F.R. 17.22(b)(5) and 17.32(b)(5). The MRHCP identifies ten specific changed circumstances that may occur. Eight of the changed circumstances apply to types of environmental events or events outside the control of the Applicant: vandalism; fire; flood; landslides and wind/water erosion (not anticipated to occur); drought; earthquakes; invasive species; and diseases and pathogens. The MRHCP provides that in the event of a changed circumstance, the Applicant shall, with the concurrence of the Service, determine the extent of damage, and identify and implement an appropriate response, if any is needed. Funding will be provided through the Applicant's endowment maintenance money, or at Applicant's own expense, with funds provided as described in Chapter 6 of the MRHCP.

Unforeseen Circumstances

Unforeseen circumstances is defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by the Applicant or Service during the plan's negotiation and development, and that result in a substantial and adverse change in the status of the Covered Species.

In the event of an unforeseen circumstance, the Service will notify the Applicant in writing to describe the unforeseen circumstance and its anticipated effects on Covered Species. The notice must demonstrate that the unforeseen circumstance is having, or is likely to have, a significant adverse effect on a Covered Species, based on the best scientific and commercial data available. The following factors will help determine whether or not a previously unidentified event constitutes an unforeseen circumstance:

- Percentage of the range of a Covered Species adversely affected by the Multiple Region O&M HCP.
- Percentage of the range of a Covered Species mitigated by the Multiple Region O&M HCP.
- Ecological significance of that portion of the range affected by the Multiple Region O&M HCP.
- The level of knowledge about the affected species.
- The degree of specificity of the pertinent AMMs and mitigation measures under the Multiple Region O&M HCP.
- Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species.

Pursuant to the “No Surprises” rule, the Service will not require any additional land, water, or other natural resources without the consent of the Applicant in the event an unforeseen circumstance occurs. If the Service determines that an unforeseen circumstance has occurred and that additional land, land restrictions, or financial compensation beyond that required under the MRHCP are needed to conserve the Covered Species, the Applicant will not be obligated to provide the additional measures without its consent. Pursuant to 50 C.F.R. 17.22(b)(8) and 17.32(b)(8) the Service retains the authority to revoke the Permit, in response to an unforeseen circumstance or otherwise, if we find that continuation of the take permitted under the permits would appreciably reduce the likelihood of the survival and recovery of a listed species.

II. PUBLIC COMMENT

The Service published a Notice of Intent to prepare an Environmental Impact Statement (EIS) in the *Federal Register* on November 25, 2008 (73 FR 71668). The Service published a revised Notice of Intent to prepare an Environmental Impact Statement on October 29, 2010 (75 FR 66781). The Service published a Notice of Availability announcing the availability of the draft EA, draft MRHCP, and receipt of an application for an incidental take permit by the Applicant in the *Federal Register* on March 2, 2020 (85 FR 12319). Publication of the notice initiated a 30-day comment period that ended on April 1, 2020. The Service published a 15-day extension of the public comment period on March 26, 2020, extending the comment period to April 16, 2020, in response to request from two commenters (85 FR 17093). The Service received 4 public comments during the comment period. All comments are summarized and have been responded to, and are included as an attachment to this document.

III. INCIDENTAL TAKE PERMIT CRITERIA – ANALYSIS AND FINDINGS

Findings for Permit Issuance Criteria

1. The taking will be incidental.

The Service finds that the take of Covered Species will be incidental to otherwise lawful activities. Incidental take will result from the categories of Covered Activities described above in Part I of

these Findings. Any take resulting from these Covered Activities will be incidental to, and not the purpose of, these otherwise lawful activities.

2. The Permittee will, to the maximum extent practicable, minimize and mitigate the impacts of taking listed species and other Covered Species.

The Service finds that the Applicant will minimize and mitigate the impacts of the taking of Covered Species to the maximum extent practicable. The Permittee has developed the MRHCP and its associated conservation strategy pursuant to the incidental take permit requirements at 50 CFR 17.22(b)(2) and 50 CFR 17.32(b)(2), which require measures to minimize and mitigate the effects of issuing permits. The impacts of the taking will be minimized, mitigated and monitored in accordance with measures identified in Chapter 3 (Covered Activities), Chapter 5 (Conservation Strategy) and Chapter 6 (Implementation and Funding) of the Plan (PG&E 2019). To make the finding that the conservation measures minimize and mitigate the impacts of take to the maximum extent practicable, the Service must first evaluate whether the measures identified in the conservation strategy are rationally related to the level of take anticipated under the MRHCP. In effect, the minimization and mitigation measures need to address the biological needs of the Covered Species in a manner commensurate with the impacts to the species allowed under the MRHCP. It is the Service's determination that the level of minimization and mitigation provided for in the MRHCP compensates for the impacts of taking of each Covered Species that will or could potentially occur under the Plan.

The Applicant has placed an emphasis on avoidance and minimization of the effects of Covered Activities on Covered Species as the Applicant's highest priority. Prioritizing avoidance and minimization over mitigation is expected to provide incentive to the Applicant by reducing the costs of plan implementation that would otherwise be incurred by securing permanent mitigation.

Habitat loss (as well as direct mortality and injury to some of the Covered Species) is anticipated to occur throughout the life of the plan. While habitat losses and number of individuals can only be estimated, the MRHCP sets maximum limits (i.e., caps) on the amount of take that can occur by species. The Applicant will mitigate temporary and permanent habitat loss with permanent conservation, either through direct acquisition of land which will subsequently be protected in perpetuity with a conservation easement, or through recording of conservation easements on non-owned land. Temporary disturbance may occur more than once in a single location, but with periods of no disturbance in between (sometimes years). Temporary disturbances generate permanent mitigation, even though during the interim time periods, the habitat is available to Covered Species. The Applicant may also purchase credits from conservation banks or fund existing local conservation efforts. The overall impacts associated with Covered Activities are expected to be small with respect to individual Covered Species, as well as diffuse throughout the plan area. The conservation expected to be gained will be large in comparison, planned for maximum species benefit, and coordinated with pre-existing conservation efforts throughout the plan area. While coordinating with other conservation efforts are not relied on to make our findings, the Service expects additional benefits to be afforded to individual Covered Species addressed under the MRHCP as well as those addressed through other conservation strategies (such as other HCPs and conservation strategies).

Adverse effects to Covered Species are fully described in the Service's Intra-Service Biological Opinion (Service 2020a) and the conclusions are consistent with this Finding.

3. The Permittee will ensure that adequate funding for the Habitat Conservation Plan and procedures to deal with unforeseen circumstances will be provided.

The Service finds that the MRHCP includes adequate procedures for determining the occurrence of, and responses to, both changed and unforeseen circumstances. The Applicant has identified, described, and provided responses in the MRHCP for nine changed circumstances (vandalism, fire, floods, landslide and wind/water erosion, earthquakes, drought, climate change, invasive species, and diseases and pathogens) that may affect Covered Species or their habitats, and can reasonably be anticipated and planned for in the MRHCP. The MRHCP uses an adaptive management strategy and funding to respond to the specified changed circumstances.

The Applicant is responsible for funding full implementation of the MRHCP as described in Chapter 6 of the MRHCP. The following costs components, described in detail in section 6.9.1, were identified in association with implementation of the MRHCP: staffing, funding of the validation study, and training costs (see MRHCP Table 6-1); biological surveys and avoidance and minimization measures, which are covered by the project budgets each time a Covered Activity is undertaken; mitigation (see tables 6-2 and 6-3); and monitoring and reporting costs, which are funded as part of the responsibilities of land planners and biologists, and are thus also captured in table 6-1. All funding for these items will be fully covered by the Applicant's gas and electricity rates, i.e., will be paid for by the Applicant's customers (see MRHCP Section 6.9.3). Because all MRHCP funding is rate-based, funding will be assured to keep pace with expenditures.

In the event of Unforeseen Circumstances during the permit term, amendments to the MRHCP may be proposed by either the Applicant or the Service to address these circumstances. The Applicant and the Service will work together to identify opportunities to redirect resources to address Unforeseen Circumstances. However, consistent with the Service's "No Surprises" regulations at 50 CFR 17.22(b)(5) and 17.32(b)(5), in the event of an unforeseen circumstance, and assuming the Plan is being properly implemented, the Applicant may be required to make modifications within the conserved lands or to the MRHCP's conservation strategy, but only if such modification will not involve the commitment of additional land, water, or other resources beyond the level agreed to under the MRHCP, unless the Applicant consents to such additional mitigation.

Based on the information about available financial resources, we find the Applicant has ensured adequate funding for implementation of the MRHCP.

4. The taking will not appreciably reduce the likelihood that the species will survive and recover in the wild.

The Service finds that the proposed taking will not appreciably reduce the likelihood of the survival and recovery of the Covered Species in the wild. The Act's legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of "no jeopardy" pursuant to Section 7(a)(2) of the Act and the implementing regulations pertaining thereto (50 CFR §402.02). As a result, the Service has reviewed the MRHCP under section 7 of the Act. In the Intra-Service Biological Opinion (Service 2017), the Service reviewed the current status for the Covered Species; their environmental baseline in the action area; and, the direct, indirect and cumulative effects of the proposed action, including the adverse effects and all avoidance, minimization, and mitigation measures. As indicated in the Service's Intra-Service Biological Opinion, the Service concluded that issuance of an incidental take permit for the Covered Species associated with implementation of the

proposed MRHCP is not likely to jeopardize the continued existence of the Covered Species. The rationale for this conclusion is discussed in detail in the Intra-Service Biological Opinion (Service 2020a). The rationale for these conclusions is discussed in detail in the Service's Intra-Biological Opinion (Service 2020a), and were based on the following facts:

- a. The effects of Covered Activities on listed species are small for each instance, and are expected to be distributed throughout the Permit Area, minimizing the effects on Covered Species resulting from any single covered activity.
- b. Preference in the MRHCP for securing large, intact mitigation parcels that benefit multiple species, rather than small parcels of fragmented habitat.
- c. The Applicant has provided incentive to avoid effects to Covered Species as the highest conservation priority, and mitigate any impacts that cannot be avoided.
- d. Most anticipated disturbance is expected to be temporary and the Applicant has proposed to permanently conserve lands valuable to each Covered Species' conservation to offset the effects of the temporary disturbance.
- e. The Applicant will work with existing, overlapping HCPs and HCP/NCCPs to further their conservation goals, and to maximize the benefits of its mitigation obligations (as noted above the Service is not basing its determination that the proposed MRHCP minimizes and mitigates to the maximum extent practicable based on this; merely noting it here as an additional benefit to Covered Species).

5. Other measures, as required by the Director of the Fish and Wildlife Service, as necessary or appropriate for the purposes of the plan will be met.

The Service finds that the MRHCP has incorporated all elements necessary or appropriate for issuance of a section 10(a)(1)(B) permit and other elements otherwise required by the Service.

6. The Service has received the necessary assurances that the plan will be implemented.

The Service finds that the MRHCP provides the necessary assurances that the Pacific Gas and Electric Company can carry out their proposed HCP.

IV. GENERAL CRITERIA AND DISQUALIFYING FACTORS – ANALYSIS AND FINDINGS

The Service has no evidence that the permit application should be denied on the basis of criteria and conditions set forth in 50 CFR §13.21(b)-(c).

V. RECOMMENDATION ON ISSUANCE OF PERMIT

Based on these findings with respect to the permit application, the MRHCP, and the EA for this project, I recommend issuance of a section 10(a)(1)(B) ITP to the Applicant for incidental take of the Covered Species in accordance with the Pacific Gas and Electric Company's Multiple Region Operations & Maintenance Habitat Conservation Plan in **Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kern, Lake, Lassen, Madera, Mariposa, Mendocino, Modoc, Monterey, Nevada, Placer, Plumas, Sacramento, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Sutter, Tehama, Tulare, Trinity, Tuolumne, Yolo, and Yuba** Counties, California.

Michael B. Fris,

Date

Assistant Regional Director,

Pacific Southwest Region,

U.S. Fish and Wildlife Service

VI. FINDING OF NO SIGNIFICANT IMPACT – NEPA DECISION

Effects on the Human Environment

The attached EA was prepared to analyze and disclose potential environmental impacts pursuant to NEPA. The draft EA was modified as described on page ES-2 (*Revisions of Final EA*) and represents the final EA. Only the final EA, and those documents made available during the public comment period were used in this FONSI. The EA regards all Covered Activities except for those classified as “Minor New Construction” to be the baseline condition because Covered Activities are currently ongoing and have been for many years prior to the potential issuance of the ITP. The EA supports the following findings:

Agricultural Resources

Most minor new construction activities, including gas and electric line extensions, will not preclude the continued use of the land for agriculture, and agricultural practices will be able to continue. Minor new construction activities covered under the HCP could potentially convert agricultural lands to non-agricultural use permanently (e.g. up to 10-acre electric substation expansions and 0.55-acre gas pressure limiting station construction). These activities will be infrequent and, when implemented on lands not already owned by PG&E, will require compensation to the landowner. Substations will be expanded on or immediately adjacent to the existing utility-owned substation parcel.

As footnoted in Table 1-1 of the HCP, approximately 10% of minor new construction activities are anticipated to affect agricultural lands. PG&E anticipates installation of one new gas pressure limiting station on an annual basis (for a total of approximately 30 new pressure limiting stations over the 30-year term of the HCP). PG&E estimates approximately 10 electric substation expansions over the permit term. Although it is not possible to predict the location of these facilities, assuming 10% of these activities were implemented on agricultural lands at the maximum scale anticipated under the HCP, these activities could result in the conversion of approximately 11.65 acres of agricultural lands over the 30-year permit term, which constitutes 0.00042% of the total agricultural lands in the HCP study area (see Appendix C of the EA, Study Area Map). Given the vast inventory of agricultural lands present in the study area, minor new construction activities would result in a negligible amount of agricultural lands being converted to non-agricultural use.

As part of the HCP conservation strategy (see Chapter 5 of the HCP), some additional land could be acquired to support habitat mitigation under the HCP. As discussed in the HCP, the agricultural lands affected by habitat mitigation would likely be limited to lands that offer benefit to Covered Species under their current agricultural use, such as grazing lands that provide habitat for California tiger salamander and rice fields that provide seasonal aquatic habitat for giant garter snake. Mitigation lands will be acquired only from landowners willing to sell their lands, and most lands identified for compensation use will likely continue to be grazed or farmed after acquisition, albeit with modified practices, and thus will not undergo a change in uses. Under the Proposed Action, any grasslands or rice fields acquired for mitigation use will be permanently protected from urban development and managed to benefit biological resources in perpetuity. Because of the commitment to manage mitigation lands for biological benefit, the physical attributes of unirrigated grassland or irrigated rice fields that may be acquired under the Proposed Action will not be lost or otherwise altered.

Issuance of the ITP by the Service is not anticipated to substantially change the amount or location of impacts on agricultural resources in the Plan Area. Consequently, the potential effect of the Proposed Action on agricultural resources will be negligible. Additionally, habitat mitigation is not expected to result in a substantial physical impact on agricultural land on an incremental basis, nor will habitat mitigation result in a cumulatively considerable contribution to regional agricultural conversion impacts.

NEPA Cumulative Impacts

The principal concern related to cumulative effects on agricultural resources is conversion of agricultural land to non-agricultural uses. According to the California Department of Conservation (DOC), Division of Land Resource Protection Farmland Mapping and Monitoring Program, approximately 1.4 million acres of agricultural land has been converted to non-agricultural uses between 1984 and 2012 (DOC 2015). This represents an average of approximately 50,000 acres converted annually.

As noted above, most Covered Activities are compatible with the existing agricultural land use. Minor new construction activities, such as substation expansion and pressure limiting station construction, could result in the permanent conversion of small areas of farmland to non-agricultural use. PG&E estimates that permanent conversion of agricultural land will occur at an average rate of approximately 0.39 acres per year throughout the Plan Area over the 30-year term of the HCP. This constitutes 0.0008% of the total amount of agricultural land conversion in California per year, and is not considered cumulatively considerable.

As discussed above, habitat mitigation is not expected to result in a substantial physical impact on agricultural land on an incremental basis, nor will habitat mitigation result in a cumulatively considerable contribution to regional agricultural conversion impacts.

Air Quality and Climate Change

No new permanent emission-generating facilities will be installed as a result of issuance of the ITP. Any replacement of existing facilities will be in-kind, except for potential replacement of fuel-based circuit breakers with gas-insulated circuit breakers or switchgear, which may contain the greenhouse gas SF₆. Although SF₆ is typically completely contained in the equipment and not released into the atmosphere, there is a potential for leaks during maintenance or operation of equipment. Leakage of SF₆ would be controlled through compliance with PG&E's air quality practices, which are estimated to limit SF₆ leak rates to a maximum of 0.5% per year. Accordingly, there will be negligible changes in greenhouse gas (GHG) emissions from Covered Activities compared with the No Action Alternative. Moreover, emissions of criteria pollutants and GHG are expected to decline over the 30-year life of the HCP as PG&E replaces its vehicles and construction equipment with more efficient, less-polluting equipment.

Criteria pollutant and GHG emissions from Covered Activities will be generated by mobile and stationary equipment exhaust, employee and haul truck vehicle exhaust, and earthwork. The frequency and intensity of Covered Activities is expected to be short-term and minor and will not exceed 10 acres per site. Accordingly, emissions will be limited. Management activities on mitigation lands are similarly anticipated to have negligible impacts on air quality because they will likely involve minimal ongoing earthwork or use of emission-generating equipment. All

activities will also be subject to PG&E's air quality practices, which directly reduce criteria pollutant and GHG emissions (see Appendix F of the EA). PG&E will also implement MRHCP avoidance and minimization measures (AMMs) and vegetation management best management practices (BMPs) to reduce air quality-related effects. These include Field Protocol (FP)-01 (worker training), FP-02 (park vehicles on existing roads designated areas), FP-03 (use existing roads), FP-07/BMP 13 (15 mph on unpaved roads), FP-10 (minimize disturbance footprint), FP-11 (follow erosion and sediment control measures), BMP-5 (compliance with CARB permitting requirements), and BMP-6 (minimizing vehicle idling).

Use of diesel-powered equipment during Covered Activities could generate particulate exhaust emissions. However, emissions-generating activities will be relatively small, short term, and dispersed throughout the Plan Area. Exposure of nearby receptors to diesel particulate emissions will also be reduced through implementation of PG&E's air quality practices, which will reduce the likelihood that receptors will be exposed to substantial pollutant concentrations. In addition, because Covered Activities will generally last no longer than 2 years at one location, and often less than a few days, they will have a limited potential to affect sensitive receptors.

Covered Activities may also generate odors from diesel-powered equipment and asphalt paving. Such odors will be temporary and will generally occur at magnitudes that will not affect substantial numbers of people.

Overall, Covered Activities typically generate negligible emissions dispersed across the Plan Area and issuance of the ITP will not substantially change PG&E's emissions from the current baseline level. Therefore, the potential effect of the Proposed Action on air quality and climate change will be negligible.

NEPA Cumulative Impacts

During the 30-year term of the ITP, other activities that could contribute to cumulative air quality and climate change impacts in the air basins crossed by the Plan Area include agriculture, timber harvesting, transportation, construction activities, industrial processes, and wildfires. Covered Activities will not generate new permanent sources of criteria air pollutants or GHGs, with the exception of substation expansions involving installation of new gas-insulated circuit breakers or switchgear, which may contain SF₆. Because potential leaks will be infrequent, controlled through PG&E's air quality practices, and negligible, these emissions will not represent a cumulatively considerable contribution, nor will they result in a cumulatively considerable effect.

Emissions of criteria pollutants and GHGs during minor Covered Activities will be diffuse over the relatively large Plan Area, short term in nature, and minimized with implementation of PG&E's air quality practices. Therefore, the Proposed Action will not result in a cumulatively considerable contribution to existing effects on criteria air pollutants or GHGs.

Biological Resources

Potential impacts on biological resources from issuance of the ITP for PG&E's MRHCP were evaluated using the impact criteria in Appendix G of the EA, as detailed below. Impacts on Covered Species were analyzed based on an independent review and evaluation of the analysis

provided in MRHCP Chapter 4, *Covered Species Impact Analysis*. To quantify and estimate habitat and species impacts, as well as assess the likelihood of take of or impacts to each Covered Species that could result from Covered Activities, PG&E developed a methodology that relied extensively on GIS analysis, as described in the MRHCP Chapter 4, Section 4.1.2, *Analytical Methods*.

For covered wildlife species, PG&E worked with the Service to develop predictive species-specific habitat models based on broad land-cover types. Habitat models were based on data from several conservation planning efforts in or near the Plan Area, the California Department of Fish and Wildlife's California Wildlife Habitat Relationships and the California Natural Diversity Database (CNDDDB), literature review, and field knowledge. PG&E also worked with the Service to develop covered wildlife "Hot Zones," which are defined as areas containing a known population of Covered Species with a small and well-defined range, and where the species will be most likely to be affected by Covered Activities. See MRHCP Chapter 2, Section 2.3 for more information on Hot Zones, MRHCP Chapter 4, Section 4.1.4 for more details on wildlife habitat modeling, and MRHCP Table 2-3 in Chapter 2, Environmental Setting, for the source used to determine each species' range.

Habitat models were not used for plants because of the unique microhabitat requirement for these species and because known location information provides guidance to the application of AMMs. For covered plants, a GIS-based analysis was conducted by overlaying CNDDDB plant location data on to PG&E's facility location data layers to determine where a covered activity may affect a plant species' habitat. PG&E delineated plant "Map Book zones" in areas with extant, known, or recently confirmed plant occurrences. Aerial photography interpretation was also used to examine possible impacts on individual plant occurrences from Covered Activities. The number of individual plants that will be directly impacted by Covered Activities was estimated for CNDDDB occurrences based on reported population size and density. For more details, see MRHCP Chapter 4, Section 4.1.8, *Calculation of Covered Plant Impacts*.

The MRHCP does not quantify estimates for potential impacts associated with management activities on the habitat mitigation lands because, although management activities are included as Covered Activities, their minor impacts will be accounted for in restoration plans and management plans for the properties. With implementation of the MRHCP AMMs, impacts on Covered Species from management activities on the mitigation lands are anticipated to be temporary and minimal. The purpose of these activities is to improve habitat conditions for Covered Species, and the long-term benefits of the conservation strategy will offset any temporary minor effects on the species.

Chapter 1, section 1.5.2, *Covered Species*, describes the criteria used to select species for inclusion in the MRHCP. One of the criteria is whether or not a listed species will be impacted by Covered Activities. The text of that criterion is as follows:

"Impact: The species may be adversely affected by PG&E's covered activities. This criterion assumes that AMMs would be implemented for activities that could affect listed species in the Plan Area, and that only those species for which impacts would not be avoided through use of the AMMs would be covered under the MRHCP."

Based upon this criterion, combined with PG&E's Environmental Review, Planning, and Screening Process, described in MRHCP Chapter 5, section 5.4, *Environmental Review, Planning, and Screening Process*, we have determined that the Covered Activities in the MRHCP will not have impacts on listed species that have not been included for coverage. We expect the Environmental Review, Planning, and Screening Process to identify projects that may impact federally-listed non-covered species, and we have received assurances that PG&E will seek authorization from the Service prior to causing any adverse effects to listed species, including plants, that have not been included for coverage in the MRHCP (Norton pers. comm. 2020).

Impacts on Covered Plant Species and their Habitats

The MRHCP includes 12 covered plant species in the Plan Area that may be impacted by Covered Activities. These activities could result in direct loss of individual plants, disruption of the seedbank, and reduced habitat quality due to soil compaction or introduction of invasive plants.

Covered Plant Avoidance and Impact Minimization

The proposed MRHCP conservation strategy will avoid impacts on covered plants by following PG&E's environmental screening practices described in MRHCP Section 5.4.2, *Screening for Covered Plants*, and implementing covered plant AMMs as detailed in MRHCP Table 5-1, Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species, whenever Covered Activities will be conducted near covered plant populations. For medium and large activities, biologists are required to conduct project-specific screening to determine the potential for impacts if a covered plant is likely to be present, whether or not the activity will be conducted in a designated Map Book zone.

In combination with existing PG&E environmental practices, proposed AMMs will minimize adverse effects on covered plants and their habitats. PG&E will implement a number of AMMs to protect covered plants. These measures include standard construction practices for all Covered Species (FP-1 through FP-18, to the extent they apply to covered plants), specific measures to protect vernal pools and other wetlands (Wetland-1 and Wetland-2); several plant-specific measures (Plant-01 through Plant-08); and minor new construction activities (Minor New-1). Refer to Chapter 5 (Table 5-1) of the MRHCP for more details on AMMs. For large activities, if covered plants cannot be avoided, PG&E will implement Plant-05 through Plant-08 as applicable, which require plant salvage and restoration in accordance with a Service-approved restoration plan.

In addition to AMMs and PG&E environmental practices, BMPs will also be used to reduce environmental impacts from vegetation management activities (see Chapter 5, Table 5-2). BMPs are equivalent to field protocols in implementation.

Estimated Impacts on Covered Plants and Critical Habitat

Estimated impacts on critical habitat for covered plant species were based on the locations of occurrence records within facility corridors. Expected indirect impacts are the introduction of invasive plant species, sedimentation, or pollutants caused by a covered activity near species habitat or off-site, possibly leading to eventual degradation of critical habitat. However, AMMs

are expected to reduce these potential impacts. The plant impact analysis uses known covered plant occurrence data from the CNDDDB in existing corridors, with the assumption that Covered Activities will be conducted in or near these existing corridors in similar habitat types. Because actual Covered Activities may be implemented outside of these areas, this extrapolation is not a precise impact estimate for any individual species, but rather gives an order of magnitude for the likely impacts. The actual number of plants impacted over the 30-year term of the MRHCP will depend on the actual location of Covered Activities and will be bound by the limits in the MRHCP.

Covered Plant Mitigation

If plants cannot be re-established according to the timeframe and success criteria defined in the restoration plan, PG&E will mitigate the permanent impact on covered plants. As detailed in MRHCP Section 5.6.2.5, *Mitigation Summary for Plants*, PG&E will mitigate unavoidable permanent impacts on individual plants at a 1:1 ratio, and the general acres of habitat impacted will be similar to the mitigation area. Permanent impacts on plants are defined as absence of the plants as a result of a Covered Activity. PG&E will not provide mitigation for temporary impacts on plants, which are defined as pruning or temporarily removing topsoil and seedbank, where the plants recover.

Covered Plant Impact Summary

Impacts on plants from Covered Activities will be small, mostly temporary, and distributed over a large area over the 30-year permit term. With implementation of PG&E's environmental screening practices, application of applicable AMMs and BMPs, adherence to the impact limits committed to in the MRHCP and reflected in the ITP, and mitigation for unavoidable permanent impacts as detailed in PG&E's conservation strategy, the Proposed Action is not anticipated to result in substantial direct mortality or substantial loss or degradation of habitat, including designated critical habitat, for covered plants.

Impacts on Covered Wildlife Species and their Habitats

The MRHCP includes 24 covered wildlife species in the Plan Area that may be impacted by Covered Activities. These activities could result in direct impacts on individuals of Covered Species being harmed or killed by construction vehicles and equipment during ground disturbance, vegetation clearing, or off-road travel. Indirect effects could result from damage to habitat, including loss of nesting trees, host plants, cover plants and other vegetation; soil compaction that adversely effects the life cycle of some covered invertebrates; and pollution of aquatic habitats from fuels, hazardous materials, or sedimentation from eroded soils disturbed by construction. Construction activities could also spread invasive plants that could degrade habitat by outcompeting host plants and other native plants that provide food sources, cover, or other habitat values for covered wildlife.

Covered Wildlife Avoidance and Impact Minimization

The proposed MRHCP conservation strategy will avoid impacts on covered wildlife by following PG&E's environmental screening practices described in MRHCP Section 5.4.1,

Screening for Covered Wildlife. Biologists and land planners will use the MRHCP habitat models to conduct project-specific screening to determine which AMMs to apply to each Covered Activity.

As detailed in MRHCP Table 5-1, PG&E will avoid and minimize impacts associated with Covered Activities through the use of field protocols, a suite of AMMs (Hot Zone AMMs, species-specific AMMs, and covered plant AMMs) as they apply to covered wildlife species. The AMMs are specific to Hot Zones and other sensitive habitat types associated with covered wildlife and plant species. Hot Zone AMMs ensure impacts on narrow endemic species are avoided or minimized; each measure focuses on a particular species or group of species and will be applied when PG&E undertakes Covered Activities in a specific area. These protocols and measures are prescribed under various circumstance described in MRHCP Section 5.5.1, *Avoidance and Minimization of Impacts*, and are discussed in the subsequent section of the EA as they apply to specific covered wildlife species.

As detailed in MRHCP Table 5-2, vegetation management activities will follow PG&E's BMPs to reduce environmental impacts. Vegetation management BMPs are equivalent to field protocols in implementation.

Field Protocols Benefitting All Covered Wildlife

The following field protocols will avoid and minimize direct and indirect impacts on all covered wildlife: FP-01 (BMP-1) requires for training construction crews on species avoidance and minimization; FP-02 restricts vehicles and equipment parking to designated areas; FP-03 (BMP-4) minimizes the development of new roads; FP-04 reduces impacts from off-road travel; FP-08 (BMP-26) prohibits trash dumping onsite; FP-10 minimizes the footprint and duration of Covered Activities; FP-17 requires felling trees away from exclusion zones.

Field Protocols Benefitting Terrestrial Wildlife

FP-06 requires inspection of materials and pipes prior to moving, FP-13 requires escape ramps in open trenches and steep-walled holes; FP-19 requires inspection and maintenance of fencing installed to exclude species from work areas.

Field Protocols Benefitting Aquatic Wildlife

FP-11 avoids soil and sediment runoff into water bodies; FP-12 limits stockpiles and requires covering of spoils; FP-15 prohibits refueling within 250 feet of wetlands, streams, or waterways; FP-16, Wetland-1, and Wetland 2 require maintaining setbacks or other protective measures during work near vernal pools, wetlands, ponds, and riparian areas.

Estimated Impacts on Covered Wildlife and Critical Habitat

Table I-3 in Appendix I of the EA summarizes the potential impact of Covered Activities on covered wildlife species habitat over the 30-year term of the MRHCP. Table I-4 identifies estimated temporary and permanent impacts on designated critical habitat for covered wildlife species. Temporary impacts on wildlife habitat consist of impacts on habitat that recover within 1 year and/or do not result in installation or expansion of facility footprint. Permanent impacts on wildlife consist of impacts on habitat that do not recover for more than 1 year, or the

installation or expansion of a permanent facility footprint. Permanent impacts of Covered Activities could include permanent conversion of habitat to industrial use, as in the case of a substation expansion, or permanent conversion of habitat to a different habitat type, such as a new power line right-of-way through a forested area, which will preclude re-establishing tall-growing forest trees under the new conductor.

The values in Table I-3 are estimated based on anticipated Covered Activities in modeled habitat; they are not a precise impact estimate for any individual species, but rather give an order of magnitude for the likely impacts. There may be instances where some of PG&E's individual project impacts could be larger than those identified in Table I-3. However, PG&E will be limited to the total take authorization provided by the ITP and will be required to seek a permit amendment if take were projected to exceed these impacts.

Vernal Pool Invertebrates

Covered Activities will typically avoid vernal pool habitat and, therefore, will not affect covered vernal pool invertebrates (Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp). PG&E will maintain a 250-foot setback from vernal pools (FP-15, FP-16, and Wetland-1), or will implement other site-specific protective measures prescribed by a biologist or the MRHCP administrator in cases where the setback cannot be observed (BMP-14). In vernal pool complexes that have been designated as a Hot Zone because of known populations of covered vernal pool invertebrates, PG&E will implement Hot Zone-2, which limits ground-disturbing activities near vernal pools during the rainy season and requires on-foot access in rock outcrops year-round.

Terrestrial Invertebrates

Covered Activities could be conducted in habitat for covered terrestrial invertebrates, including Morro Bay shoulderband snail, Mount Herman June beetle, Ohlone tiger beetle, Smith's blue butterfly, valley elderberry long-horn beetle, and Zyante band-winged grasshopper. Covered Activities could cause direct mortality of covered terrestrial invertebrates or their host plants. Vehicles, equipment, and foot traffic could crush, kill, or bury individual eggs, larvae, pupae, nymphs, or adults or destroy burrows used by larvae. Adults of flying invertebrates could be struck by vehicles during flight. Under certain conditions, soil compaction or covering of pupation sites by eroded soils or excavation spoils could inhibit or prohibit emergence of beetles.

Indirect impacts could result from removal of vegetation or the spread of invasive plant species leading to a reduction in habitat quality. PG&E will minimize potential indirect effects of Covered Activities using weed-free seed mixes and straw in revegetation and erosion control applications.

The AMMs listed above for all covered wildlife and terrestrial covered wildlife will avoid and minimize impacts on covered terrestrial invertebrates. Additional species-specific AMMs and BMPs will apply to large activities:

SBB-1 requires pre-construction surveys, avoidance of host plants, and seasonal activity restrictions.

MHJB-1 requires avoiding work during the flight season and minimizing off-road use of vehicles and equipment in sensitive habitat.

VELB-1 requires crew training and exclusion zones to avoid or minimize disturbance to elderberry shrubs, and stipulates pruning rather than removal of elderberry shrubs when feasible for required vegetation management.

BMP-15 requires that vegetation management activities in valley elderberry longhorn beetle (VELB) habitat must follow PG&E VELB Utility Standard ENV-7001S and vegetation management VELB procedures.

Additional AMMs will apply in known Hot Zones for several species, specifically:

Hot Zone-10 avoids removal and crushing of silver bush lupine, the primary host plant for Zayante band-winged grasshopper, and minimizes off-road vehicle and equipment use in undisturbed natural habitat (i.e., areas with lupine).

Hot Zone-11 minimizes ground disturbance and off-road use of vehicles and equipment in undisturbed natural habitat for Ohlone tiger beetle.

Hot Zone-12 requires a pre-construction biological survey and relocation of Morro shoulderband snail when work cannot be conducted from paved roads or non-vegetated areas.

Amphibians

Most Covered Activities will not be conducted in or near wetland or other aquatic habitats and will not likely affect wildlife dependent on these habitats. Species that use both aquatic and upland habitats are more likely to be affected in upland areas. For Covered Activities that involve ground disturbance in or near seasonal wetlands, marshes, ponds, or streams, seven federally-listed amphibians (California red-legged frog, California tiger salamander, foothill yellow-legged frog, mountain yellow-legged frog, Santa Cruz long-toed salamander, Sierra Nevada yellow-legged frog, and Yosemite toad) could be affected.

There are few PG&E facilities located in modeled habitat for foothill yellow-legged frog, mountain yellow-legged frog, or Sierra Nevada yellow-legged frog—and where present, the amount of modeled habitat in proximity to PG&E facilities is extremely small. Therefore, PG&E has indicated that Covered Activities are unlikely to be conducted in habitat for these highly aquatic species.

Covered Activities could cause direct mortality or injury of covered amphibians during ground-disturbing activities in or near aquatic habitats, as well as vehicle and equipment travel across or near aquatic habitats. Covered Activities are more likely to affect covered amphibians when the species are more active during the wet season. Individual covered amphibians could be crushed or buried by vehicles or equipment during travel or while performing earthwork work in upland habitat, particularly when in close proximity to aquatic breeding habitat. If Covered Activities cannot avoid aquatic breeding habitat, tadpoles and eggs could also be directly impacted by equipment; however, impacts on breeding areas are expected to be minimal and infrequent.

Indirect impacts could result from upslope disturbances that affect drainage patterns or increase sedimentation, stream banks collapsing from construction equipment or other activities, or the discharge of pollutants into the soil or aquatic habitats. Covered Activities could also spread invasive plants that could degrade wetland and aquatic habitat by outcompeting with native plants.

The AMMs listed above for all covered wildlife and aquatic covered wildlife will avoid and minimize impacts on covered amphibians. The following Hot Zone AMM will also apply in mapped Hot Zones for Santa Cruz long-toed salamander:

Hot Zone-9 requires pre-construction surveys and seasonal restrictions in known habitat for Santa Cruz long-toed salamander.

Santa Cruz long-toed salamander is fully protected under California law; therefore, even with issuance of the ITP from the Service, PG&E will continue to take necessary measures to avoid direct mortality of Santa Cruz long-toed salamander during Covered Activities and habitat enhancement activities.

Reptiles

Covered Activities could be conducted in habitat for covered reptiles, specifically blunt-nosed leopard lizard and giant garter snake. Vehicles and equipment could crush eggs, juveniles, and adults of each species, either while they are above ground during their active or breeding season or underground during their inactive period. Because giant garter snakes primarily inhabit fresh permanent wetland, flooded cropland, and slow-moving drainages in the Sacramento Valley floor, they are generally vulnerable to impacts on aquatic habitat during their active, breeding season (early spring to mid-fall). During their inactive season (late fall through winter) they are more vulnerable to impacts in uplands areas while occupying hibernation sites in small mammal burrows and other small crevices within approximately 200 feet of suitable aquatic habitat.

Indirect impacts on giant garter snake are similar to those described above for covered amphibians. Indirect impacts on blunt-nosed leopard lizard could result from introduction of invasive plant species that reduce blunt-nosed leopard lizard hunting success.

The AMMs listed above for all covered wildlife and terrestrial wildlife will avoid and minimize impacts on covered reptiles and the AMMs for aquatic wildlife will also avoid and minimize impacts on giant garter snake. Additional species-specific AMMs will apply to large activities:

GGs-1, which requires performing work activities during the active season for the species (May 1–October 1) to the extent practicable, installing exclusion fencing, and avoidance or relocation of snakes by a qualified biologist in active construction areas

BNLL-1 requires surveys, identification and avoidance of burrows, exclusion zones, and relocation of lizards by a biologist if they are in danger of injury or mortality in work areas.

Blunt-nosed leopard lizard is fully protected under California law; therefore, even with issuance of the ITP from the Service, PG&E will continue to take necessary measures to avoid direct

mortality of blunt-nosed leopard lizard during Covered Activities and habitat enhancement activities.

Birds

Covered Activities could be implemented in habitat for covered birds, specifically marbled murrelet and northern spotted owl. Direct impacts from Covered Activities are most likely to occur during the nesting season, either from direct removal of vegetation resulting in direct injury or mortality to eggs or young. Noise-generating activities near active nests could result in nest abandonment by adults or young during the incubation, brooding, or fledgling period, leading to failure of egg development or mortality of juveniles through starvation.

The location and configuration of PG&E's existing power lines and any bird strikes that currently occur as a result of their presence on the landscape are considered part of the existing conditions that will not change with issuance of the ITP by the Service. Extensions and relocations of existing transmission and distribution lines, up to 2 miles in length, are considered Covered Activities and are included in the analysis in the EA. Issuance of the ITP by the Service is not likely to increase the frequency of PG&E's construction of power line extensions, nor will it stipulate their location or configuration. PG&E follows an Aviation Protection Plan, which is based on guidelines issued by the Avian Power Line Interaction Committee, for all new facilities. The plan stipulates design and siting decisions that minimize the risk of bird electrocution.

Indirect impacts on covered birds could result in a reduction in their prey base as a result of Covered Activities. However, this type of impact is not anticipated because of the small temporary and permanent footprint required for Covered Activities.

The AMMs listed above for all covered wildlife will avoid and minimize impacts on covered birds by reducing disturbance from Covered Activities. In addition, FP-18 (BMP-16) protects all birds by requiring avoidance of all nests with eggs and/or chicks. Additional species-specific AMMs will apply to large activities:

NSO-1 stipulates seasonal work restrictions if Covered Activities will occur within 0.25 mile of unsurveyed northern spotted owl nesting habitat, activity centers, or critical habitat.

MM-1 requires seasonal work restrictions or nest buffers for Covered Activities if an activity will impact suitable marbled murrelet nesting habitat.

Mammals

Covered Activities could be conducted in habitat for covered mammals, specifically giant kangaroo rat, Point Arena mountain beaver, and San Joaquin kit fox. All three of these mammals are active primarily at night. Covered Activities and habitat enhancement activities are mostly likely to result in direct impacts on these species while they are in underground burrows or dens. Vehicles or equipment operating over a burrow or den entrance could collapse the entrance and entomb an animal or its young and cause injury or mortality. While above ground, these mammals could also be struck by vehicles or equipment.

The potential for impacts on individual San Joaquin kit foxes is influenced by the duration of the activities, time of year, time of day, and amount of ground disturbance in the species' habitat. The highest potential for impacts on individuals is from March to August, when adults are hunting and young are exploring around natal sites. Construction sites may attract San Joaquin kit foxes during non-work hours, potentially elevating their risk for injury or death if they become trapped in open trenches or seek cover under equipment or materials (i.e., pipes) that are later moved.

Indirect impacts on covered mammals could result from ground vibration caused by large activities, which could affect behavior during breeding season and reduce reproductive success. Permanent removal of forage vegetation for Point Arena mountain beaver and giant kangaroo rat could reduce habitat quality. Removal, burial, or destruction of giant kangaroo rat seed caches could lead to energy loss or starvation of one or more individuals. Covered Activities and habitat management activities are not anticipated to substantially decrease the prey base for San Joaquin kit fox because they will result in minor permanent impacts on habitat and impacts will typically be spread over a large area and extended timeframe.

The AMMs listed above for all covered wildlife and terrestrial wildlife will avoid and minimize impacts on covered mammals. Additional species-specific AMMs will apply to large activities:

GKR-1 requires giant kangaroo rat burrow avoidance, biological monitoring of ground disturbing activities, burrow excavation and animal relocation if potentially occupied burrows and burrow precincts cannot be avoided.

SJKF-1 requires surveys for potential dens prior to construction, 200-foot avoidance buffers for active dens, and exit ramps for excavations near active dens.

Additional AMMs will apply to all Covered Activities in known Hot Zones for Point Arena mountain beaver, including:

Hot Zone-13 encourages avoidance of work during the Point Arena mountain beaver breeding season, and site-specific assessment by a biologist and avoidance of burrows if work cannot be scheduled outside of the breeding season.

Critical Habitat

Table I-4 includes estimated impacts on critical habitat for the 14 covered wildlife species for which critical habitat has been designated. Estimated impacts on critical habitat for Covered Species was determined through a GIS-based analysis using the latest Service maps of critical habitat units as boundaries (see MRHCP Chapter 4, Section 4.1.7 and Table 4-10 for details). Generally, impacts within specific critical habitat and individual critical habitat units are expected to be in proportion to the extent of the Plan Area within which that critical habitat unit is situated (MRHCP Table 4-10 and Table 4-11).

Covered Wildlife Mitigation

As detailed in MRHCP Section 5.6, *Habitat Mitigation*, PG&E will mitigate unavoidable impacts on habitat with equivalent or higher-value habitat by establishing conservation easements,

funding enhancement and restoration on protected lands, or by purchasing credits from approved mitigation or conservations banks. Mitigation ratios are proposed as follows:

Permanent impacts on covered wildlife: 3:1 (3 acres mitigated for every 1 acre permanently impacted), except for impacts on valley elderberry longhorn beetle, which will be mitigated at a 2:1 ratio, and San Joaquin kit fox moderate-value and low-value habitat, which will be mitigated at 1:1 and 0.5:1, respectively.

Temporary impacts on covered wildlife: 0.1:1 to 1:1 (0.1 to 1.0 acres mitigated for every 1 acre temporarily impacted), depending on the species, type, and quality of the habitat.

As described in MRHCP Section 5.4.1.1, *Use of Habitat Models*, for most small activities (impacting less than 0.01 acre), PG&E will rely on the habitat models and the estimated activity sized in MRHCP Table 4-1 to determine the size of the impact to be mitigated. For medium and large activities impacting more than 0.01 acre, PG&E will determine mitigation requirements based on actual, on-the-ground impacts as measured in the field. As detailed in MRHCP Section 5.6.2.3, *Exceptions to Use of Models in Determining Mitigation*, PG&E will perform a site-specific habitat assessment for the following species to determine mitigation requirements and will not rely on the models: valley elderberry longhorn beetle, foothill yellow-legged frog, mountain yellow-legged frog, and Yosemite toad.

Covered Wildlife Impact Summary

MRHCP Table 4-36, shows the total acreage of impacts on covered wildlife habitat over the 30-year permit as a percentage of all estimated available habitat in the MRHCP study area. In MRHCP Section 4.3.2, *Effects of the Taking*, PG&E estimates that approximately 78.5% of impacts in a given year will be temporary. For most species, the total area estimated to be permanently impacted represents less than 0.1% of available modeled habitat in the study area with the following exceptions: Santa Cruz long-toed salamander breeding habitat (0.29%) and upland habitat (0.13%) and Mount Hermon June beetle habitat (0.10%). See MRHCP Chapter 4, Section 4.3.2 and Table 4-36 for more details.

On the whole and considering the geographic extent of the Plan Area relative to the Covered Species' ranges, impacts are projected to be very small. Additionally, PG&E's impacts will not be concentrated in time and space. Because Covered Activities will be conducted intermittently as needed, impacts will be distributed throughout the Plan Area in relation to the specific facilities, and most frequently will be temporary in nature.

PG&E's Covered Activities will contribute to habitat modifications and impacts on the 36 Covered Species (including designated critical habitat) in the MRHCP. Continued population and economic growth in the 34-county MRHCP study area will bring additional timber harvesting, agricultural conversion, land development, and other construction activities that could also affect habitats and individuals of both covered and non-covered plants and wildlife.

With implementation of PG&E's environmental screening practices, application of AMMs and BMPs, adherence to the take limits in the ITP, and mitigation for unavoidable impacts as detailed in PG&E's conservation strategy, the Proposed Action is not anticipated to result in substantial direct mortality or substantial loss or degradation of habitat, including designated

critical habitat, for covered wildlife. Over the 30-year permit term, impacts on covered wildlife species will be negligible, and the landscape-level, high-habitat-value compensatory mitigation lands provided will result in a net beneficial effect for species recovery.

NEPA Cumulative Impacts

Like much of the rest of California, the Plan Area has been subject to cumulative impacts related to the loss and degradation of habitat as a result of land use practices over the past 150 years. Conversion to agricultural use, timber harvesting, and accelerating urbanization have been the primary factors in the loss of the Plan Area's native grassland, scrub, woodlands, forests, and riparian/wetland habitats. As a result of this land conversion, approximately 46% of the 566,000-acre Plan Area is mapped as nonnative communities, specifically urban (25.5%) and cultivated land (20.8%). The Plan Area's aquatic habitats have been affected by various types of pollutants, including agricultural and petroleum chemicals, pollutants delivered via urban runoff, and increased sediment delivery resulting from soil and vegetation disturbance from timber harvesting and construction. Habitat modifications and construction activities can affect individual plant and wildlife species and result in reductions in their populations, which can be detrimental to listed or other special-status species. The Proposed Action's contribution to this cumulative effect will be minimal considering the size of the Plan Area and the total acreage in the 34-county MRHCP study area.

PG&E's Covered Activities will contribute to habitat modifications and impacts on the 36 Covered Species (including designated critical habitat) in the MRHCP. Continued population and economic growth in the 34-county MRHCP study area will bring additional timber harvesting, agricultural conversion, land development, and other construction activities that could also affect habitats and individuals of both covered and non-covered plants and wildlife.

Like PG&E, proponents of other habitat-disturbing activities would also be required to comply with the Act and other regulatory requirements listed in MRHCP Section 1.4, *Regulatory Context*, and would be expected to comply with similar avoidance, minimization, and mitigation requirements.

The MRHCP includes measures that adequately minimize and compensate for impacts on Covered Species. Any impacts from Covered Activities will be mostly small-scale, temporary, and dispersed over a linear utility rights-of-way. As part of the MRHCP conservation strategy, PG&E will provide habitat mitigation at an equivalent or higher-value habitat level, in most cases in advance of impacts on Covered Species. Even though the majority of impacts will be from temporary disturbance, PG&E will provide mitigation for both temporary and permanent impacts on modeled habitat. Therefore, the Proposed Action's contribution to impacts on the 36 Covered Species is not expected to preclude survival or recovery of any of the species when considered with other cumulative development within both the Plan Area, as well as the total acreage associated with the 34 counties in the study area.

With implementation of the MRHCPs BMPs and AMMs, the Proposed Action is not expected to result in a cumulatively considerable contribution to regional loss of natural habitats or impacts on covered individual plants or wildlife, and the proposed MRHCP is expected to result in a net long-term benefit with regard to providing compensatory mitigation to offset cumulative regional habitat loss. Based on the experience of PG&E's other HCPs, the MRHCP

is expected to provide a cumulative benefit to long-term species recovery through collaboration with other HCPs and conservation efforts in the region to acquire and protect high-value conservation lands. Refer to Appendix J of the EA for other large-scale conservation efforts in the MRHCP study area. The mitigation provided under the MRHCP conservation strategy will also result in corollary benefits to common and special-status plants and wildlife using the habitats preserved and protected.

Cultural Resources

Ground disturbance associated with Covered Activities could damage cultural resources or human remains on or below the ground surface.

To avoid and minimize impacts, PG&E will continue to screen ground-disturbing Covered Activities for their potential to affect cultural resources using cultural resource specialists or automated tools, depending on the location, type of activity, and extent of ground disturbance, as described in Appendix F of the EA. The screening process will prescribe appropriate measures to avoid known resources, such as worker training, minimizing disturbance, exclusion fencing and flagging, and/or construction monitoring. If the cultural resource specialist determines construction will be in an area with high potential for buried cultural resources or human remains, the cultural resource specialists will prescribe procedures for addressing unanticipated discoveries following standard protocols. Any required avoidance measures and unanticipated discovery procedures will be included in each release to construction document. Furthermore, PG&E will implement MRHCP AMMs to minimize effects on cultural resources, including FP-01/BMP-1 (worker training), FP-02 (park vehicles on existing roads designated areas), FP-03/Plant-02/BMP-4 (use existing roads), and FP-10 (minimize disturbance footprint). Therefore, impacts on culture resources are not expected to be significant.

Management activities on mitigation lands may require limited excavation by land management partners (e.g., for fence installation). However, because of the limited extent and magnitude of these minor ground-disturbing activities, mitigation land management is not expected to substantially affect cultural resources.

NEPA Cumulative Impacts

Because some Covered Activities will require ground disturbance, the Proposed Action will have the potential to damage or destroy buried cultural materials. However, based on the screening, training, avoidance, and unanticipated discovery procedures described in Appendix F of the EA, the contribution of Covered Activities to a cumulative impact will be avoided, minimized, and mitigated to the extent practicable. Any residual effect will not represent a cumulatively considerable contribution, nor will it result in a cumulatively considerable effect.

Environmental Justice

Because of demographic factors, almost any adverse effect associated with the Proposed Action has the potential to represent an environmental justice concern in select communities in the Plan Area. However, the majority of Covered Activities are ongoing and impacts of the Proposed Action will not change the baseline condition for existing facilities. Covered Activities under the Proposed Action will be implemented based on system requirements and customer needs on an as-needed

basis over a broad geographic region. Although these activities will be implemented adjacent to existing PG&E infrastructure and facilities, the specific location, nature, and scope of these activities over the 30-year permit term have yet to be determined. Consequently, the identification of communities affected by these activities and specific environmental justice impacts would be purely speculative at this time. However, as discussed throughout the EA, environmental impacts from PG&E's Covered Activities are expected to be minimal, predominantly temporary, and dispersed over a large geographic area rather than concentrated in any particular community.

As a regulated public utility, PG&E is obligated by the State of California to provide service to customers within their service area, regardless of socioeconomic status, ethnicity, or other demographic characteristics. Covered Activities required to provide and maintain service are not expected to disproportionately affect one group over another. Management activities on mitigation lands are expected to be small-scale, temporary, infrequent, and are likely to be implemented on unpopulated open lands with minimal potential for environmental justice impacts. Further, PG&E has an established companywide policy in place that requires the company to identify and address potential environmental justice impacts. This policy will carry forward for activities implemented under the MRHCP. Therefore, the Proposed Action is not expected to result in disproportionate adverse impacts on environmental justice communities in the Plan Area.

NEPA Cumulative Impacts

As detailed above, incremental impacts related to environmental justice are expected to be minimal throughout the 30-year permit term. Covered Activities will be distributed across the Plan Area and will not differ substantially from impacts that currently occur and would persist with or without the Proposed Action. With implementation of PG&E's environmental justice policy, the Proposed Action is not expected to result in cumulatively considerable environmental justice impacts.

Geology, Soils, and Paleontology

Geology and Soils

Covered Activities could be implemented in areas subject to the geologic hazards and could result in indirect impacts that increase the risk of slope failure.

PG&E designs its facilities to comply with the applicable CPUC standards (GO 95 for electric facilities; GO 112-E for gas facilities) and relevant sections of the California Building Code (where not superseded by CPUC regulations). Substation expansions are designed and constructed in conformance with Institute of Electrical and Electronics Engineers (IEEE) 693 standards. These codes include a wide variety of stipulations relevant to reducing risks from seismic, geologic, and soil hazards, including requirements for foundation and structural design and structural tolerances. Depending on the extent, nature, and location of proposed earthwork and construction, PG&E prepares a site-specific geotechnical investigation for new construction activities to provide a geologic basis for the development of appropriate project design to minimize risks from geologic and soil hazards. MRHCP AMMs that will be implemented to minimize effects related to geology and soils include FP-01/BMP-1 (worker training), FP-02 (park vehicles on existing roads or designated areas), FP-03/Plant-02/BMP-4 (use existing roads), FP-11 (erosion and sediment control), FP-12 (stockpile management), FP-14 (work site restoration), and Plant-03 (topsoil conservation).

Adherence to relevant CPUC, IEEE 693, and building codes earthwork standards, and implementation of PG&E's existing environmental practices will reduce the potential for facility damage from geologic hazards and minimize the safety risks to personnel and the public from new and existing facilities. In addition, new facilities will be built using more stringent building requirements than were applied to previously built facilities.

Covered Activities also have the potential to result in erosion and loss of topsoil where the ground is disturbed or vegetation is removed. Management activities on mitigation lands are not anticipated to require significant soil disturbance or vegetation removal that will increase erosion. Potential impacts of soil loss are further discussed in Section 3.9, Hydrology and Water Quality.

With implementation of PG&E's standard environmental practices and MRHCP AMMs, as well as compliance with applicable utility standards and regulations, the potential effect of the Proposed Action related to geology and soils will be negligible.

Paleontological Resources

Covered Activities will be conducted in or near existing PG&E rights-of-way, which have undergone varying levels of disturbance. However, some of these activities, such as trenching for new pipeline extensions, auguring for new or replacement electric transmission poles and structures, and excavating for substation expansions, have the potential to unearth and damage unanticipated paleontological resources. As part of PG&E's standard environmental practices, if work crews uncover significant paleontological resources during earthwork, the crew foreman will halt work within 100 feet of the find and report it to a PG&E cultural resources specialist for further evaluation, as detailed in Appendix F of the EA. MRHCP AMM FP-10 will also minimize effects on paleontological resources by minimizing the disturbance footprint of Covered Activities. Management activities on mitigation lands are not expected to require substantial excavation that will adversely affect paleontological resources.

With implementation of PG&E's standard environmental practices and MRHCP AMM FP-10, as well as compliance with applicable state and federal laws, the potential effect of the Proposed Action on paleontological resources will be negligible.

NEPA Cumulative Impacts

PG&E will design and engineer minor new construction projects to industry construction standards and anticipates that proponents of other development projects in the vicinity of the Plan Area do the same such that cumulative effects related to seismic and other geologic and soil hazards would not be considerable.

During the 30-year term of the ITP, other activities in the Plan Area that could affect paleontological resources include construction projects and mining. The scale of PG&E's Covered Activities under the Proposed Action is minimal compared with large-scale development projects and mining operations, and effects on paleontological resources will not be cumulatively considerable over the 30-year term of the permit.

Hydrology and Water Quality

Implementation of Covered Activities in the Plan Area could result in temporary impacts on hydrology and water quality, including the following effects.

- Changes to drainage patterns.
- Increased impermeable surfaces, which could increase stormwater runoff and reduce groundwater infiltration.
- Increased soil disturbance and potential to transport sediment offsite in stormwater runoff.
- Pollution introduced by use of hazardous materials.

Under the MRHCP, PG&E will continue to implement its environmental practices for water quality and hydrology to ensure compliance with state and federal water quality laws and minimize impacts on water quality from Covered Activities (see Appendix F of the EA). In addition, several of the proposed field protocols, AMMs, and vegetation management BMPs in the MRHCP that are aimed at addressing impacts on listed species will protect hydrology and water quality as well. These include measures that reduce the footprint of disturbance (FP-01, FP-02, FP-03, FP-10, Plant-02, and BMP 4), measures that require sediment and erosion control (FP-11, FP-12, FP-14, and BMP 10), measures that prevent hazardous materials spills in waters and riparian areas (FP-15, BMP 8, BMP 9, BMP 11), measures that require buffers from waters, wetlands, and vernal pools (FP-16, Wetland-1, Wetland-2, and BMP 14), and measures to keep cleared vegetation out of waters (BMP 12). Implementation of the MRHCP conservation strategy will provide landscape-level mitigation in advance of impacts on Covered Species, which will likely have greater benefits for watersheds and water quality than project-by-project mitigation agreements.

PG&E has existing facilities in or near floodplains that are part of the baseline condition. New or expanded facilities, such as pipelines, tower footings, or power poles, may need to be located in floodplains or within the 100-year flood zone. The majority of new or expanded facilities located in floodplains will either be placed underground (pipelines) or will be small (poles or footings) and, therefore, will not obstruct flood flows. Minor new construction activities involving the construction of larger facilities, such as substation expansions or pressure limiting stations, will be designed to meet or exceed flood-resistant construction standards established by the CPUC. Consequently, an increase in flood risk is unlikely and any potential impacts will be minimal.

As noted in the MRHCP, most Covered Activities will be conducted in upland areas. However, when work in waters is required, PG&E will be subject to additional permitting requirements from state and federal agencies, such as the State Water Resources Control Board, Regional Water Quality Control Board, California Department of Fish and Wildlife, and USACE. See MRHCP Section 1.4.4, *Federal and State Water and Wetland Laws and Regulations*, and Appendix D of the EA for more information about regulations related to hydrology and water quality.

Although some Covered Activities such as substation expansion and pressure limiting station construction will create new impermeable surfaces, these activities will be relatively small in scope, diffuse throughout the Plan Area, and infrequent over the 30-year permit term. Consequently, any decreases in groundwater infiltration or increases in surface runoff will be negligible.

Management activities on mitigation lands are not anticipated to require substantial grading or

ground disturbance, vegetation removal, or onsite use or cleaning of equipment. Therefore, water quality impacts are anticipated to be negligible.

With implementation of PG&E's water quality protection practices and MRHCP AMMs, as well as compliance with applicable state and federal regulations, the potential effect of the Proposed Action on hydrology and water quality will be minimal.

PG&E will continue to implement its standard erosion and sediment control practices and water quality control measures, which require review of the geologic and soil conditions at each worksite and identification of site-specific measures to address slope stability and erosion potential prior to construction. Construction projects will comply with relevant construction stormwater permit requirements under state and federal laws, including preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) with appropriate erosion and sediment control measures for any activities with the potential to disturb an area greater than 1 acre.

NEPA Cumulative Impacts

Over the 30-year permit term, actions carried out by other entities in the Plan Area that could combine with PG&E's impacts on water quality from Covered Activities include other construction projects, agriculture, timber harvesting, industrial water discharges, and mining. Increased sediment and pollutant delivery can increase water turbidity, degrade aquatic habitat quality, alter stream function, and increase infrastructure and channel maintenance costs.

As previously discussed, PG&E will implement standard water quality protection practices and MRHCP AMMs and vegetation management BMPs, and will continue to comply with requirements of state and federal laws and regulations for protection of water quality. With these measures in place, sediment generated by individual activities will be effectively reduced. Nonetheless, erosion and sediment movement will not be entirely eliminated, and sediment delivery could be locally and temporarily increased. Excess sediment load delivered to area waterways will primarily be confined to fine sediment, which may be carried long distances in suspension, dropping out of the water column when flow velocity subsides. Because the temporary increase in sediment discharge will be delivered in discrete pulses, one pulse is expected to move through the local system and be deposited before the next arrives. Thus, the short-term effects of increased sediment loading are not expected to be considerable from a cumulative perspective, nor is the likely increase in sediment transport expected to create a new, significant, or additive cumulative effect on systems not already identified as impaired.

As previously discussed, substation expansion and pressure limiting station construction will result in a permanent increase of impermeable surfaces. As stated in Chapter 1 of the MRHCP (Table 1-1, *MRHCP Plan Area Overview*, footnote b), approximately 90% of minor new construction activities will be implemented in natural vegetation and agricultural lands (with the remaining 10% of activities in previously developed urban areas), creating a maximum average of approximately 3.9 acres of new permanent impermeable surfaces in the approximately 565,800-acre Plan Area annually over the 30-year permit term. When added to the increase of impermeable surfaces associated with other development projected in the state, the Proposed Action's contributions to any decrease in groundwater infiltration are not cumulatively considerable.

Noise

The primary sources of noise and vibration will be work vehicles and construction equipment required to complete Covered Activities. The Proposed Action will not change the baseline condition for noise generated from operations and maintenance activities on existing facilities. The specific location, nature, and scope of minor new construction activities have yet to be determined; therefore, site-specific information is not available, and a detailed impact analysis is infeasible at this time. Nevertheless, because of the nature of this work, generation of noise will be relatively small scale, limited in scope, and short term. PG&E will implement standard noise abatement practices (see Appendix F of the EA). Although some minor new construction activities may require the use of a helicopter in some circumstances, those applications will typically be away from sensitive noise receptors and limited to remote locations that are difficult to access. Activities that could cause groundborne vibration, such as pile driving, are not anticipated. Management activities on mitigation lands are similarly anticipated to have negligible noise impacts because they are not likely to be implemented near residences or involve substantial use of mechanized equipment.

Expanded or new facilities will create a new permanent source of substantial noise. Substation expansion projects may add additional transformers; however, noise impacts are not strictly additive. Rather, when adding a noise level to an approximately equal noise level, the total noise level increases 3 A-weighted decibels. Any substation expansions beyond the existing utility-owned parcel will require a Permit to Construct from the CPUC and will be subject to a site-specific noise impact analysis that considers impacts on nearby noise-sensitive receptors. As a result, the potential effect of the Proposed Action related to noise will be negligible.

NEPA Cumulative Impacts

The Plan Area includes a diversity of land uses ranging from urban to agricultural and rural. Urban and rapidly developing areas are typically subject to cumulative noise impacts, while agricultural and rural areas are much less likely to be so impacted. Because of the diversity of noise environments in the Plan Area, a regional cumulative impact is essentially the ambient noise environment. As previously described, site-specific information to complete a detailed impact analysis is not available at this time. Noise levels for these activities are expected to be similar, however, to existing levels for ongoing operations and maintenance and minor new construction activities currently implemented by PG&E.

Covered Activities will be distributed across the Plan Area. Because of the activities' wide geographic distribution and short-term, intermittent nature, the Proposed Action is not expected to result in a cumulatively considerable effect on noise conditions.

Public Health and Environmental Hazards

Covered Activities will require use of the same types of hazardous materials that are used for PG&E's baseline operations and maintenance activities. Spills or releases of any of these substances could result in localized contamination and could contribute to degradation of surface water and groundwater quality and result in potential health effects. PG&E will continue to comply with applicable state and federal laws, regulations, and requirements pertaining to hazardous materials and hazardous wastes, such as the Federal Toxic Substances Control Act; Clean Water Act; Clean Air Act; Solid Waste Disposal Act; and Comprehensive Environmental Responsibility, Compensation, and Liability Act. Management activities on mitigation lands may require minimal use of hazardous materials to operate vehicles and equipment; however, quantities are anticipated to be minimal.

The Clean Water Act requires the preparation of a SWPPP that includes a Spill Prevention and Response Plan for activities with the potential to disturb an area greater than 1 acre. The Spill Prevention and Response Plan will identify the hazardous materials to be used during construction; describe measures to prevent, control, and minimize the spillage of hazardous substances; describe transport, storage, and disposal procedures for these substances; and outline procedures to be followed in case of a spill of a hazardous material. PG&E also implements its own hazardous materials practices for all operations and maintenance and construction activities (see Appendix F of the EA) and will implement MRHCP AMMs to minimize impacts, including FP-01/BMP-1 (worker training), FP-02 (parking areas), FP-03/BMP-4/Plant-02 (use existing roads), FP-08 (no trash dumping or fires), FP-15/BMP-8 (refueling restrictions), FP-16/Wetland-1/Wetland-2/BMP-14 (buffers for wetlands and vernal pools), and BMPs 28–35 (herbicide practices) to further reduce hazardous material-related risks.

In response to the 2017 and 2018 wildfires, PG&E has expanded its Community Wildfire Safety Program to accelerate inspection of existing electric infrastructure, upgrade to more fire-resistant poles and power lines, enhance vegetation management and fire monitoring, and employ preventative power shutoffs during periods of extreme fire risk. In addition to this ongoing program, PG&E will implement AMMs identified in the MRHCP during all Covered Activities, including FP-08 (no open fires) and FP-09 (fire protection equipment), and consult with local and state jurisdictions regarding wildfire hazards in accordance with its standard companywide fire risk management practices (see Appendix F of the EA). During vegetation management activities, PG&E will implement BMPs 23–26 and BMPs 38–40. With these commitments, PG&E's activities will not increase risks associated with wildfire hazards.

Issuance of the ITP and implementation of the MRHCP will not substantially change public exposure to the hazards associated with PG&E's existing infrastructure and operations and maintenance practices. With implementation of PG&E's hazardous materials and fire risk management practices and compliance with applicable state and federal regulations, the potential effect of the Proposed Action on public health will be negligible.

NEPA Cumulative Impacts

Considering PG&E's existing environmental practices and the additional protection provided by the SWPPP requirement, adverse effects related to spills or releases of hazardous materials and wildfire are expected to be minimal. To create an additive cumulative effect, multiple spills or releases will need to occur in the same area or in hydrologically connected areas. This is considered unlikely but could occur because PG&E's existing rights-of-way represent areas where similar activities are repeated over the long term. Thus, there is some, probably minor, potential for additive cumulative effects related to hazardous materials use along PG&E's existing rights-of-way. Because of regulatory clean-up and remediation requirements, the additive cumulative effect, if any, is not expected to be cumulatively considerable.

California has historically experience periods of drought and high wildfire risk. PG&E's electric transmission infrastructure together with other human and natural activities in the Plan Area will continue to contribute to wildfire risk in the future. However, issuance of the ITP and implementation of the MRHCP will not substantially change public exposure to the hazards associated with PG&E's existing infrastructure and operations and maintenance practices. PG&E's expanded Community Wildfire Safety Program will continue on existing facilities, and any new

facilities constructed following issuance of the ITP will be incorporated into this program. Therefore, impacts of the Proposed Action are not anticipated to contribute to a cumulatively considerable impact.

Visual Resources

The Proposed Action will not change the scope of baseline operations and maintenance activities on existing facilities or their potential to cause minor incremental changes to the existing visual setting. The specific location, nature, and scope of minor new construction activities have yet to be determined; therefore, site-specific information is not available and a detailed impact analysis is infeasible at this time. However, in general, Covered Activities requiring construction of underground infrastructure (such as gas pipeline extensions and underground line construction) will result in visual effects during construction, such as removal of vegetation and staging of construction equipment. Although construction activities may result in changes to visual character, these effects will be relatively short term and temporary. Once construction activities are completed, disturbed areas will be restored to near pre-construction conditions. Operation of these facilities will not result in substantial permanent changes to visual character, although vegetation management will be required over buried facilities to prevent damage from tree roots.

Other Covered Activities, such as installation of new structures or expansion of existing facilities, may result in some permanent changes to visual character in the Plan Area. New or expanded structures or facilities will be located immediately adjacent to existing PG&E infrastructure and, therefore, are anticipated to be consistent with existing local visual character. As detailed in Appendix F of the EA, PG&E staff evaluates visual impacts of new or substantially taller replacement structures to confirm the activity will not substantially degrade the existing visual character or quality of public view of the site and its surroundings. As required by CPUC GO 131-D, new electric transmission line extensions and substation expansions beyond the existing utility-owned property will require additional environmental review by the CPUC, including a site-specific assessment of impacts on aesthetics. Management activities on mitigation lands are not anticipated to substantially change the visual character of the local setting.

Moreover, PG&E implements companywide practices aimed at reducing both temporary and permanent visual effects during construction and operation of its facilities (see Appendix F of the EA). PG&E will also implement AMMs identified in the MRHCP to minimize visual effects, including FP-03/BMP-4/Plant-02 (use existing roads), FP-04 (avoid impacts on trees and unique natural features), FP-08/BMP-26 (prohibit trash dumping onsite), FP-10 (minimize footprint and duration of Covered Activities), and FP-14 (site restoration for large activities).

Because Covered Activities will be located adjacent to existing PG&E facilities and infrastructure, and because implementation of PG&E's standard environmental practices and MRHCP AMMs will minimize visual resource effects, the Proposed Action is anticipated to result in negligible changes to the visual character in the Plan Area.

NEPA Cumulative Impacts

Although Covered Activities may result in some temporary and permanent changes to visual character in the Plan Area, the Proposed Action is not expected to result in a cumulatively considerable effect on visual resources because these activities will be widely distributed across the

Plan Area and any potentially cumulatively considerable visual effects will be further reduced with implementation of PG&E's standard environmental practices.

Conclusions

In accordance with the National Environmental Policy Act of 1969, as amended, and the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 CFR §1500-1508), the Service has found that based on the analysis in the final EA (composed of the EA and including Revisions of Final EA (page ES-2), and our Response to Public Comments) the proposed Action would not result in significant impacts to the physical and biological resources in the *Pacific Gas and Electric Company Multiple Region Operations & Maintenance Habitat Conservation Plan* Permit Area, the Integrated Permit Area, or in the surrounding area and would not significantly affect the quality of the human environment (40 CFR §1501.4 (e), 1508.13). Therefore, an Environmental Impact Statement is not required.

It is my determination that the Proposed Action is not a major Federal action significantly affecting the quality of the human environment under section 102(2)(c) of the NEPA. Accordingly, an Environmental Impact Statement on the proposed action is not required. An Environmental Assessment has been prepared in support of this finding and is incorporated by reference and attached. The Final EA and these Findings/FONSI is also available from the Service's Sacramento Fish and Wildlife Office and will be made available on the Sacramento Fish and Wildlife Office's web page.

Michael Fris,

Assistant Regional Director,

Pacific Southwest Region,

U.S. Fish and Wildlife Service

Date

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- [Service] U.S. Fish and Wildlife Service. 2020a. Biological Opinion; Issuance of a Section 10(a)(1)(B) Permit to the Pacific Gas and Electric Company for the Pacific Gas And Electric Company Multiple Region Operations & Maintenance Habitat Conservation Plan. Sacramento, California.
- [Service] 2020b. Environmental Assessment for the Pacific Gas & Electric Company Multiple Region Operations and Maintenance Habitat Conservation Plan. Sacramento, California. Prepared by Foghorn Solutions, Inc., and ICF International.
- [PG&E] Pacific Gas and Electric Company. 2020. Pacific Gas and Electric Company Multiple Region Operations & Maintenance Habitat Conservation Plan. Prepared by ICF International.

PERSONAL COMMUNICATIONS

- Norton, Brad. 2020. Director, Conservation Planning, ICF International, Inc. Discussion of avoidance of non-covered species in the PG&E Multiple Region Habitat Conservation Plan. Microsoft Teams Call. May 28.