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Sent via Email: collinsville@panoramaenv.com

Connie Chen, California Public Utilities Commission
Collinsville 500/230 Kilovolt Substation Project
c/o Panorama Environmental, Inc.
717 Market Street, #400, San Francisco, CA 94103

RE: LSPGC's Collinsville 500/230 Kilovolt (kV) Substation Project – PG&E Draft EIR
Comments

Dear Ms. Chen,

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to comment on the Draft Environmental Impact Report (DEIR) for LS Power Grid California's (LSPGC's) Collinsville 500/230 kV Substation Project (proposed project).

PG&E is not a party to this proceeding, nor is it an applicant in the California Environmental Quality Act (CEQA) process. However, because it must interconnect the LS Project to the CAISO-controlled grid, PG&E's interconnection facilities are part of the "project" reviewed under CEQA, and PG&E has worked to support the environmental review effort as requested by the CPUC and LSPGC.

As explained below, PG&E has concerns about several of the alternatives being considered in the DEIR. PG&E requests that certain transmission line alternatives be eliminated and, for substation locations, supports the Environmentally Superior Alternative as being PG&E's preferred choice for interconnecting LSPGC's proposed project as well as future projects. PG&E also suggests an approach to mitigating biological impacts related to its interconnection facilities based on recent, relevant CEQA analysis that would simplify construction measure issues, and ends with some additional comments on the proposed measures.

1. Proposed PG&E Interconnection Facilities

This section provides a brief overview of PG&E's interconnection facilities under LSPGC's proposed project and alternatives that would affect the scope or design of PG&E's

interconnection facilities. Further discussion of PG&E's concerns about various alternatives is contained in later sections.

Proposed Project 500 kV Transmission Lines:

Under LSPGC's proposed project, LSPGC's new substation location would require PG&E to construct two, approximately 1.2 mile long 500 kV transmission lines between the new substation and PG&E's existing Vaca Dixon-Tesla 500 kV Transmission Line. Two parallel, single-circuit transmission lines would be required to loop the line into and out of the new substation because, in accordance with accepted utility standards and best practices, a maximum of one 500 kV circuit (3 conductors) would be placed on each structure to support reliability¹ and safe maintenance.² The roughly parallel 500 kV lines would extend through a wind farm owned and operated by the Sacramento Municipal Utilities District (SMUD) in an area reportedly frequented by flying and nesting birds. PG&E engineers had completed 60% design on the standard option of placing these 500 kV lines on lattice steel towers (LSTs) when they were asked to consider an alternative design (DEIR Alternative 3). PG&E's original plan would require approximately 10 LSTs and 12 tubular steel poles (TSPs), the latter supporting single 500 kV conductors (3 per circuit) on turning and end points.

Alternative 3 – 500 kV Monopole Alternative:

SMUD has urged the CPUC to require PG&E to place the two, parallel 1.2-mile 500 kV transmission lines on non-standard "monopoles" rather than LSTs, even though SMUD itself does not use this design for its 500 kV lines.³ PG&E engineers and construction experts have voiced significant concerns about the impacts and unknown risks of this alternative. Nevertheless, at the request of the CPUC, they have produced a potential design that would include 6 larger monopoles in place of lattice towers and 24 standard TSPs, with an estimated 60% increase in transmission line costs.

Environmentally Superior Project – 500 kV Interconnection:

Under the Environmentally Superior Alternative (Alternative 1 substation location, plus Proposed Project), PG&E's transmission lines would be reduced to two 500 kV loops from the existing Vaca Dixon-Tesla 500 kV Transmission Line directly onto change-of-ownership (POCO) poles just outside LSPGC's adjacent substation site, resulting in a total of approximately 0.4-miles of new 500 kV transmission line. The short loops would be placed entirely on approximately 12 TSPs.⁴ PG&E supports this alternative.

¹ This practice enables one 500 kV circuit to remain in service if the other circuit become damaged.

² For maintenance work, if two circuits were located on one structure, both would need to be taken out of service whereas only one of the two circuits would need to be de-energized if placed on separate structures.

³ In an email dated June 4, 2025, SMUD acknowledged that "SMUD & TANC don't use any 500kV monopole to support transmission lines."

⁴ Note that, while adopting the Alternative 1 substation location would require LSPGC to construct longer 230 kV transmission lines, those 230 kV transmission lines – unlike PG&E's 500 kV lines – can be placed double-circuit on a single pole line using standard, conventional TSPs, thereby addressing SMUD's migrating bird concerns.

Other Interconnect Project Components:

LSPGC's proposed project would require PG&E to construct an approximately 4,750-foot-long distribution line to serve the new substation. If the Environmentally Superior Alternative is selected, the length of the required distribution line would be reduced to 700 feet.

Other interconnection facilities include remote substation work inside existing substations, protection facilities on LSPGC property immediately adjacent to LSPGC's substation, and transposition structures in existing utility easements in 4 remote locations. These components of the interconnection project would not change with any of the alternatives in the DEIR.

2. The Mitigation Bank Alternatives Must Be Eliminated

DEIR Alternatives 4 & 6A/6B propose that LSPGC's underground or overhead 230 kV lines cross a parcel owned by PG&E that is several years into the process of becoming the Montezuma Island Mitigation Bank. Located southwest of the Montezuma Hills and north of the confluence of the Sacramento and San Joaquin Rivers, approximately 1 mile east of the town of Collinsville, Latitude 38.07750°, Longitude -121.83461°, in Sacramento and Solano Counties, the mitigation bank's final prospectus has been accepted by the Inner Agency Review Team (IRT), which is comprised of several state and federal agencies including the California Department of Fish and Wildlife (CDFW), the State Water Resources Control Board, the San Francisco Regional Water Quality Control Board, the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and U.S. Army Corps of Engineers (USACE or Corps). USACE acts as the IRT lead. As part of the bank approval process, it facilitated a full public comment period following an intensive and lengthy review process with all IRT members. Utility structures and underground or overhead utility lines are not compatible with the conservation goals and expectations that have been set, and that are typically required for mitigation bank projects.

As explained in the public notice at the link below, PG&E initiated the mitigation bank review and approval process by paying fees and submitting an application to the IRT, and submitting a separate stand-alone application to CDFW as part of the banking process to establish the Montezuma Island Mitigation Bank. Once established, this mitigation bank would receive payments from individuals or entities receiving Corps authorization under Section 404 of the Clean Water Act of 1972, when appropriate, to provide compensatory mitigation credit pursuant to the requirements of the 2008 Corps-EPA Compensatory Mitigation Rule (33 CFR 332.8(d)). Additionally, the proposed mitigation bank could be utilized to offset unavoidable impacts to waters of the State that are regulated by the Regional Water Quality Control Board under Section 401 of the Clean Water Act or Section 13260 of the Porter-Cologne Act, stream alteration and state-listed endangered species impacts regulated by CDFW under Section 1602 of the California Fish and Game Code and California Endangered Species Act (CESA), and impacts to endangered species regulated by the U.S. Fish and Wildlife Service and National Marine Fisheries Service under the federal Endangered Species Act.

Currently, there are approximately 13.54 acres of alkali wetlands, 0.61 acre of scrub-shrub wetlands, and 1.50 acres of brackish marsh within the 109-acre proposed bank project area. The site supports a mosaic of annual grasslands intermixed with alkali wetlands on native bayland substrate, gradually sloping toward the brackish marshes on the margins of the Sacramento River. The northern portion of the site is predominantly covered in nonnative annual grassland; alkali wetlands occupy topographic lows and brackish marshes occur in lower elevations of the southern border. These habitats currently present at the mitigation bank site are remnant of the once more naturally occurring habitats associated with the central Sacramento-San Joaquin Delta and Montezuma Hills.

The entire parcel will be inundated as part of the project, and there will be an overlying conservation easement. As part of the project design, PG&E will excavate between 200,000 and 300,000 cubic yards of soil to lower elevations that will facilitate tidal influence and periodic inundation. PG&E plans to establish and enhance at least 31.38 acres of waters of the United States, including wetlands, in the Suisun Bay watershed. The mitigation bank proposes to offer 24.62 tidal marsh establishment credits, 3.71 alkali wetland enhancement credits, 2.39 open water establishment credits, and 3.00 sea level rise transition zone establishment credits. Credits generated at the bank may be utilized as compensatory mitigation for certain PG&E projects, but will primarily be marketed and sold to third parties.

The public notice for the Montezuma Island Mitigation Bank can be reviewed at:

<https://www.spn.usace.army.mil/Missions/Regulatory/Public-Notices/Article/3504560/spn-2019-00173-proposed-montezuma-island-mitigation-bank-sacramento-and-solano/>

Utility rights-of-way are generally considered incompatible with compensatory mitigation projects and banks that provide endangered species and aquatic resource credits, such as Montezuma Island Mitigation Bank, because they jeopardize the objectives of the compensatory mitigation project from a land use and land rights standpoint. The alignment of the utility right-of-way for Alternatives 4 and 6A/6B would be directly through the center of the Montezuma Island Mitigation Bank.

For these reasons, PG&E requests that Alternatives 4 and 6A/6B be eliminated from further consideration as infeasible.

The CPUC team has indicated that a small portion of one temporary construction access road proposed by LSPCG also falls within the mitigation bank boundary. Given the existing road immediately north and east of the mitigation bank site, it appears likely that other access is available. PG&E remains willing to work with LSPCG and the CPUC to find an appropriate access solution that does not interfere with the developing mitigation bank.

3. The 500 kV Monopole Alternative Should Be Rejected

As stated above, SMUD has requested that PG&E place two, 1.2-mile 500 kV transmission lines on “monopole” structures despite its own unwillingness to consider that design.⁵ PG&E is concerned that the DEIR’s description of this alternative fails to include the repeated concerns expressed by PG&E about the unknown risks of using a non-standard design, construction impacts due to significantly more ground disturbance, and substantial additional risks and costs that would fall on PG&E and its ratepayers.

Chapter 3 of the DEIR, which contains the Description of Alternatives, describes Alternative 3 as “using TSPs only” to support PG&E’s 500 kV transmission lines. (DEIR, Section 3.4.3 at 3-16.) This description, while accurate, sounds benign, as TSPs are used throughout the PG&E system for lower-voltage transmission lines (particularly 230 kV and 115 kV). Not so for 500 kV lines. The discussion in this section and in Chapter 6, the Comparison of Alternatives, does not once indicate that PG&E would be using a non-standard design for the single-circuit 500 kV monopole that its transmission line engineers initially rejected out of hand. Forced to provide a design for this non-standard alternative, PG&E’s engineers warned that, although the design was “technically doable,” it would be a “first-time learning experience” that could have “unknown challenges.” PG&E’s transmission line engineers continued to recommend not installing these tall, heavy poles with the large wingspans.

One large disadvantage of using this structure design is the substantial amount of additional ground disturbance required during construction. The DEIR mentions that the larger number of structures (30) will cause more ground disturbance (see Table 6.4-4), but this misses a primary point. Because helicopters cannot be used to set the lower sections of the tangent monopole structures due to their weight, the consequence is having to use a very large crane that would require a large, level crane pad. In this location characterized by rolling hills, a level pad large enough to handle the crane could require substantial cut and fill at the three to six⁶ construction sites. In addition, these large monopole structures could present maintenance challenges given the large size of the structures (both in height and breadth), in hilly terrain and in proximity of active wind turbines. Again, because these structures are untested, PG&E cannot predict the difficulties that could arise post construction.

Another major disadvantage of the non-standard monopole design is its lack of flexibility for future upgrades. PG&E Transmission Line Engineers have recently reported that this non-standard monopole design limits future upgrades of these new line sections because those structures cannot accommodate reconductoring since it could introduce G.O. 95 infractions for ground clearance and line sway (blowout). Rather, they are designed for this project only. The standard TSPs (3-pole TSP arrangement) have more flexibility carrying a single conductor and likely can support reconductoring efforts in the future, but having the large non-standard 500 kV

⁵ See fn. 3.

⁶ As the DEIR observes, it is possible that a single large pad could be placed between two single-pole structure locations for the large crane to set the two bottom pole sections at each of the 3 tangent pole locations, but that has not been field verified and otherwise confirmed.

monopoles on the line would prevent such upgrades. The standard LSTs typically used to support 500 kV lines do not have this limitation.

Given that PG&E had completed over 60% design for the traditional 500 kV lattice towers, the new monopole design will impact schedule by approximately 6-8 months. Aside from the added design costs, the new design is expected to cost at least \$½-1 million more than the original design.

PG&E questions the biological basis for this alternative, which does not appear to be well-vetted. Based on a preliminary review of the bird strike mortality information provided by SMUD, as well as the facts that SMUD and TANC (of which SMUD is a member) do not use monopoles for their 500 kV transmission lines and the occurrence of few nests in the existing 500 kV towers in the area, there does not appear to be justification for the substantial additional ratepayer expense and risks that would result from requiring PG&E to use non-standard monopole designs for this project.

For these reasons, PG&E requests that Alternative 3 be rejected.⁷

4. PG&E Mitigation Issues

While PG&E is not an applicant in the CPCN proceedings, it provided a list of proposed construction measures to be considered as part of its interconnection project construction. The DEIR proposed to augment or supersede those measures with approximately 30 measures, including 17 in Biology and an additional one related to Biology in Hydrology. PG&E will rely on the FEIR for this project if LSPCG's proposed project is approved and, in any case, will separately comply with the CPUC's General Order (GO) 131-E. In previous LSPGC permitting proceedings, the IS/MND or EIR recognized that PG&E was not applying for a discretionary permit in that proceeding and therefore was not subject to CEQA mitigation; instead, PG&E voluntarily agreed to be bound by certain construction measures incorporated into its project components. (See, e.g., Final Initial Study/Mitigated Negative Declaration, LSPGC's Round Mountain 500 kV Dynamic Reactive Support Project, § 2.6.6 PG&E Construction Measures.⁸) PG&E supports using the same approach here.

Biological and Hydrological Resources

PG&E does not disagree with the categories of measures proposed in the DEIR to reduce or eliminate biological impacts, with the exception of the Alameda Whipsnake as discussed below. However, PG&E feels that the measures themselves are written in a way that could lead to difficulties with implementation and may be redundant to or conflict with resource agency issued

⁷ If the environmentally superior alternative substation site is selected, the monopole design issue will be moot; all 12 structures would be TSPs, each carrying a single conductor.

⁸ "The APMs (shown above in Table 2-9) would not apply to the PG&E Facilities. However, the PG&E Facilities would be subject to Avoidance and Minimization Measures (AMMs) 1 through 18 from PG&E's Multi-Regional Habitat Conservation Plan General and other PG&E BMPs. PG&E would implement the PG&E AMMs and BMPs identified in Table 2-14 as part of the PG&E Facilities components of the Project."

permit requirements. PG&E has confirmed that the interconnection project's transition structures will be covered by PG&E's O&M Bay Area HCP (BAHCP), which provides federal take coverage for federally-listed species such as California tiger salamander, California red-legged frog and vernal pool tadpole shrimp. Take coverage under the BAHCP is conditioned on implementation of applicable conservation measures based on type of work and location. These general measures are included in PG&E's proposed Construction Measures. The BAHCP was adopted only after full environmental review under the National Environmental Policy Act (NEPA) to minimize and mitigate the impacts of any taking "to the maximum extent practicable" (Endangered Species Act of 1973, section 10(a)(2)(B)), a higher standard than mitigating to a "less-than-significant" level under CEQA.

PG&E has also indicated it will obtain incidental take permits (ITPs) from CDFW for three species, including Crotch's bumblebee, burrowing owl, and California tiger salamander, for construction of new transmission lines and/or new transposition structures in habitat for those species. All of these permits will have conditions that will ensure less-than-significant impacts under CEQA given that CESA requires that impacts be "fully mitigated."⁹ PG&E suggests adding the following measure that will require PG&E to obtain and comply with these permit conditions rather than setting out separate requirements:

CM BIO-X: ITP Coverage.

PG&E shall obtain an incidental take permit (ITP) from the California Department of Fish and Wildlife for Crotch's bumblebee, burrowing owl, and California tiger salamander for any PG&E interconnection construction in habitat for those species and shall comply with all requirements of the ITP, including any required surveying, construction limitations, monitoring, compensatory mitigation, and reporting.

For other biological measures attributed to PG&E's construction, PG&E suggests that they be replaced with the equivalent measures taken from the EIR for PG&E's Bay Area Incidental Take Permit (BA ITP), certified by CDFW in June 2022. The structure replacements and other construction activities are the same types of activities examined in the BA ITP EIR. The final EIR for this ITP was certified by CDFW as lead agency after a thorough and public environmental review under CEQA. CDFW incorporated the best management practices and field protocols from the BAHCP and heavily revised PG&E's Applicant Proposed Measures (APMs) during that process, concluding that those measures and the additional Mitigation Measures (MMs) in the EIR fully mitigated biological impacts and reduced impacts to less-than-significant levels. Using the applicable measures from the BA ITP EIR would ensure that impacts in biology will be less than significant, and that compliance requirements are clear and attainable.

PG&E does not agree that the Alameda Whipsnake is present or could be impacted by PG&E's construction activities. None of the work areas occur within Designated Critical Habitat, BAHCP modeled habitat, or suitable habitat as defined by USFWS or CDFW. PG&E suggests eliminating this measure or discussing the issue further.

⁹ See California Fish & Game (F&G) Code, § 2081 (b); Cal. Code Regs., tit. 14, § 783.4.

PG&E also suggests eliminating the Hydrology and Water Quality measure, MM HYD-1, for two reasons. First, PG&E has now completed the wetlands delineation effort in Solano County and has determined that all work on PG&E's interconnection facilities can be accomplished without impacting waters of the State or United States.¹⁰ Given the lack of a potentially significant impact, no mitigation is justified. Further, even if jurisdictional waters could be impacted by project activities, PG&E would consult with the USACE and the relevant regional water board to determine which permits would be required. The requirements set forth in MM HYD-1 are not necessarily consistent with any likely USACE or water board permits, and those agencies have jurisdiction over the requirements.

In Attachment A, PG&E has listed the additional measures PG&E proposes to incorporate into its project in lieu of those proposed in the DEIR, noting which proposed mitigation measure from the DEIR it is replacing. Note that PG&E is not including MM BIO-1, MM BIO-2, or MM BIO-3 from the BA ITP EIR because they apply only to the California freshwater shrimp, California tiger salamander, and Alameda whipsnake; these provisions as well as any others required to fully mitigate impacts to the California freshwater shrimp and California tiger salamander will be determined and imposed by CDFW in the individual ITPs PG&E has committed to obtain, and – as indicated above – the project will not impact the whipsnake. Also, the proposed construction measures do not include equivalents to MM BIO-4, MM BIO-6 and MM BIO-12 from the DEIR because they would be redundant with measures in the ITPs.

PG&E would welcome a meeting between experts to work out any remaining issues.

Cultural and Tribal Resources

The DEIR proposes a measure that will supersede PG&E's Construction Measure CUL-3, but finds all other construction measures sufficient. PG&E agrees that the additional measure proposed in the DEIR to address Inadvertent Discoveries of cultural and tribal resources during construction of PG&E's interconnection facilities (MM CUL-2) is reasonable and appropriate, and agrees to incorporate it into its Construction Measures.

Paleontological Resources

The DEIR proposes to add MM GEO-1 to protect paleontological resources within potentially sensitive PG&E project work areas as identified in the measure. PG&E requests adding the following sentence to the end of the second bullet concerning paleontological monitoring:

Additionally, if installation or ground disturbance will be completed via drilling or other method that precludes visual observation of landforms and soils, no monitoring is necessary given that those methods preclude the ability of a paleontological monitor to observe stratigraphy, geology and soils.

¹⁰ The Aquatic Resources Delineation Report has not yet been finalized pending landowner approvals in Contra Costa County, where no wetland impacts are expected. The Report will be submitted to the CPUC when it is completed.

With this additional language, PG&E agrees to the language in this measure.

Transportation

MM TRA-2: Helicopter Safety: PG&E's helicopter team has indicated that the FAA encourages consultation with helicopter operators only in limited situations. To avoid a requirement that is not appropriate, PG&E recommends adding the following language to the first paragraph:

Prior to construction, helicopter contractors shall coordinate helicopter activities for the project with the regional FAA office **as required** and obtain any required approvals to operate helicopters.

Utilities

MM UT-2: Pipeline AC Interference Control: PG&E suggests adding language to MM UT-2 to enable flexibility to adjust to any updated standards for mitigation of induction interference:

Before construction, the PG&E shall coordinate with CPN Pipeline to collect baseline AC/DC pipe-to-soil measurements and coating condition surveys along the segment where the pipeline runs parallel to the PG&E 500 kV alignment then calibrate the AC-interference model to those conditions and re-evaluate steady-state and fault cases. If the tuned model indicates the AC current density exceed the threshold of 30 A/m², PG&E shall install **appropriate mitigation such as** buried zinc-ribbon grounding parallel to the pipeline with bonds at regular intervals and place high-resistivity crushed rock at any above-grade appurtenances (e.g., the insulating flange) where touch potential could occur. The design shall achieve steady-state and fault touch/step potentials within applicable IEEE limits and AC current density at coating holidays ≤ 30 A/m². After energization, PG&E shall verify performance and adjust mitigation as needed; provide test stations and monitoring access to the operator.

Wildfire

PG&E suggests that the details provided in MM FIRE-1 are not all appropriate for a project-specific plan. PG&E submitted its 2026-2028 Wildfire Mitigation Plan (WMP) on April 4, 2025, in compliance with California Senate Bill (SB) 901, Assembly Bill (AB) 1054 and guidelines from the Office of Energy Infrastructure Safety (Energy Safety). PG&E's WMP can be viewed by searching "Wildfire Mitigation Plan" at www.pge.com and contains some of the company-wide information and requirements mentioned in the proposed DEIR mitigation measure. All PG&E construction projects comply with this WMP.

PG&E suggests the measure for this project be revised as follows:

CM FIRE-1: PG&E shall prepare and implement a Project Specific Safety Plan (PSSP) that includes standard fire prevention and mitigation measures. A copy of the PSSP shall be submitted to the CPUC prior to project construction. At a minimum, the plan shall include the following components:

- The purpose and applicability of the plan;
- Responsibilities and duties;
- Preparedness training and drills;
- Procedures for fire reporting, response, and prevention that include the following:
 - Identification of daily site-specific risk conditions,
 - The tools and equipment needed on vehicles and to be on hand at sites,
 - Reiteration of fire prevention and safety considerations during tailboard meetings
- Daily monitoring of the red flag warning system with appropriate restrictions on types and levels of permissible activity;
- Coordination procedures with federal and local fire officials;
- Crew training, including fire safety practices and restrictions; and
- Method(s) for verifying that all Plan protocols and requirements are being followed.

Thank you again for the opportunity to provide these comments and express our support for the Environmentally Superior Alternative identified in the DEIR. PG&E looks forward to working further with the CPUC and LSPGC project teams to address any remaining issues.

Sincerely,



David Thomas
Senior Planner
Pacific Gas and Electric Company

**Proposed Construction Measures for Biological Resource Protection on LSP
Collinsville PG&E Interconnection Facilities (APMs refer to BA ITP APMs)**

CM BIO-1

(APM BIO-1): Prevent or minimize spread of invasive weeds

(Replaces DEIR MM BIO-3: Invasive Plant Management)

The following will be implemented on E9a (Reconductoring), G9 (Pipeline Lowering), G11 (Pipeline Replacement), and minor new construction to prevent the spread of invasive weeds during all phases of covered activities, as appropriate:

- During covered activities involving ground disturbance, mud and/or accumulated soils will be removed from equipment and vehicles to the extent feasible. Vehicles and equipment will be cleaned or washed before entering a new work site. A log will be kept for each job site and will be completed to document each cleaning or washing of vehicles or equipment before entering each new work site.
- Vehicles will be staged and stored on paved or cleared areas whenever feasible.
- Certified weed-free mulch, straw, hay bales, or equivalent materials will be used where necessary for covered activities.

CM BIO-2

(APM BIO-2): Protect special-status wildlife encountered while performing covered activities and report covered wildlife observations

Any special-status wildlife species encountered during the course of a covered activity will be allowed to leave the area unharmed, and work activities that could disturb or harm the individual will halt until the wildlife has left the area. Encounters with a special-status species will be reported to a qualified biologist and PG&E environmental staff.

PG&E will maintain records of all covered wildlife species encountered during permitted activities. Encounters with covered wildlife species will be documented and provided to CDFW in an annual report as required by the ITP. If a covered wildlife species is encountered during the course of operations, the following information will be reported for each species:

- The locations (i.e., narrative, vegetation type, and maps) and dates of observations, including occurrences observed during any required surveys.
- The general condition of individual health (e.g., apparent injuries).
- If the species is moved, the location where the species was captured and the location where it was released.
- The locations, dates, and species and behaviors observed during covered wildlife monitoring.
- When conducting covered activities E9a (Reconductoring), G9 (Pipeline Lowering), G11 (Pipeline Replacement), and minor new construction PG&E will document encounters with special status species to the same level of detail as required for covered species. During PG&E's environmental screening process, PG&E will also apply this measure to other covered activities to protect special status species and habitats based on recommendations from qualified biologists. This data will be provided in ITP annual reports.

CM BIO-3

APM BIO-3: Design and site minor new construction activities to avoid sensitive areas

(Replaces MM BIO-19: Sensitive Natural Plant Communities)

New, permanent facilities as part of minor new construction activities will be sited and designed to avoid impacts on sensitive vegetation types, sensitive natural communities, and unique plant assemblages, as

well as occupied habitat and suitable habitat for special-status species, to the extent feasible. If impacts on these areas cannot be avoided, PG&E will determine if additional permitting is required to conduct the work and obtain the required permits (e.g., LSAA). If impacts are expected on covered species' habitat, Mitigation Measure BIO-1 (MM BIO-1) will be implemented to mitigate for habitat impacts.

Where minor new construction would result in impacts on sensitive vegetation types, sensitive natural communities, or unique plant assemblages, PG&E will minimize the construction footprint and implement appropriate protective measures as recommended by the qualified biologist to protect the natural community. Examples of such measures include: reseeding with a California annual seed mix, installing protective fencing around sensitive natural communities or resources, and installing wattles, erosion blankets and other drainage controls to protect new or adjacent plantings.

CM BIO-3a

(APM BIO-3a): Minimize spread of invasive plant and plant pathogens in minor new construction

(Replaces DEIR MM BIO-2: Habitat Restoration; Replaces DEIR MM BIO-3: Invasive Plant Management)

When conducting minor new construction activities, PG&E will avoid or minimize the spread of invasive species by taking the following actions:

1. Prior to commencement of activities located on or adjacent to non-paved surfaces, a qualified biologist will flag known populations of noxious weeds and invasive plants in the work areas. Invasive plant species include those listed as invasive by the California Invasive Plant Council (Cal IPC).
2. PG&E will stage work in areas not infested with weeds or treat for weed removal prior to using an infested area.
3. Prior to ground disturbance in areas containing species susceptible to Sudden Oak Death, a qualified professional (e.g., biologist, arborist, botanist familiar with Sudden Oak Death and the vegetation communities in the area) will assess the risk of activities and will identify and implement measures to reduce or avoid the risk of Sudden Oak Death spread. These measures will include but will not be limited to the following, and will be further developed and updated based on the best available science and site-specific conditions: Designate quarantine areas and implement proper measures for disposal of infested materials (e.g., branches, split wood, wood chips), Sanitize shoes, pruning gear, and other equipment with sanitizing materials (e.g., chlorine bleach, Clorox Clean-up, Lysol, scrub brush, boot brush) before and after ground-disturbing and vegetation removal activities are implemented,
4. Clothing, footwear, and equipment used during minor new construction will be cleaned of soil, seeds, vegetation, or other debris or seed-bearing material before entering a work site or when leaving an area with infestations of invasive plants and noxious weeds.
5. Heavy equipment and other machinery used in areas with infestations of invasive plant species or Sudden Oak Death will be inspected for the presence of invasive species before use on the project site and will be cleaned before entering the site, to reduce the risk of introducing invasive plant species or plant pathogens.
6. To minimize the introduction and spread of noxious weeds and invasive plants, PG&E will avoid moving weed-infested gravel, rock, and other fill materials to relatively weed-free locations. In areas where invasive plants are removed during minor new construction or vegetation removal activities, PG&E will dispose of invasive plant biomass off site at an appropriate waste collection facility or treat biomass on site to

eliminate seeds and propagules and prevent reestablishment; if moved off site, PG&E will transport invasive plant material in a closed container or bag to prevent the spread of propagules during transport. PG&E will use certified weed-free straw and mulch for erosion-control projects. PG&E will maintain stockpiled, uninfested material in a weed-free condition.

7. Areas where ground disturbance has resulted in exposed soil as a result of minor new construction shall be seeded with compatible California annual species, as determined by a qualified biologist or botanist familiar with the native vegetation in the area and experienced in revegetation techniques. Revegetation will occur prior to the onset of winter rains within the year initial impacts take place. If work cannot feasibly be scheduled outside the rainy season, revegetation may occur as directed by the qualified biologist and no later than the onset of the next winter rains.

8. To ensure a successful revegetation effort, onsite vegetation shall meet the following success criteria: PG&E shall perform pre-activity surveys to record baseline vegetative ground cover conditions and composition by a qualified biologist prior to covered activities as follows. The biologist will record the following:

- o Absolute percent ground cover for the entire work area.
- o Relative percentages of ground cover within the work area by herbaceous plants, shrubs, trees, and noxious/invasive plants.
- o Develop a catalog of all invasive species present within the work area, including an estimate of percent composition by species.

PG&E will conduct post-activity monitoring of work areas in the spring following completion of minor new construction. A qualified biologist will record any new invasive species that may have inadvertently been introduced to the work area. The biologist shall make special note of any new invasive plant species rated as “high” by the Cal IPC.

A qualified biologist will record whether there was an increase in relative cover of invasive species from baseline that may have resulted from the covered activity. If relative cover of invasive plant species has increased within the work area, PG&E shall remove and/or dispose of invasive plants in an appropriate manner, as recommended by a qualified biologist and/or a Pest Control Advisor. If any new invasive plants rated by Cal IPC as “high” are found within the work area, they will be removed in an appropriate manner, as recommended by a qualified biologist and/or a Pest Control Advisor. If the relative ground cover of invasive plants exceeds baseline by 100 percent or more, PG&E will reseed the areas where invasive plants are removed and monitor for one additional year.

CM BIO-4

(APM BIO-4): Avoid special-status plants

Replaces (DEIR MM-BIO 1: Avoidance and Minimization of Impacts on Special-Status Plants)

Occurrences of special-status plant species will be avoided to the extent practicable and will include performance of project activities in special-status plant habitat after senescence. PG&E has created “Map Book zones” for the 13 state or federally listed plants that are covered in the O&M HCP. A Map Book zone is defined as an area of occupied or potentially occupied the HCP-covered plant species habitat as determined by PG&E botanical surveys. When rare and endangered plant species subject to the NPPA cannot be avoided, PG&E will follow the requirements of California Fish and Game Code Sections 1913(b) and 1913(c) concerning notification to CDFW at least 10 days in advance and provide an opportunity to salvage such species.

If a special-status plant is found or known to occur, the plant will be avoided if feasible (i.e., O&M objectives

could still be met). If feasible to avoid, avoidance will include establishing a buffer around the plants and demarcation of the buffer by a qualified biologist or botanist using flagging. Consideration of site-specific environmental factors such as terrain, site hydrology, light, and potential introduction of invasive plants may inform the avoidance approach.

CM BIO-5

(APM BIO-5): Erect wildlife flagging or exclusion fencing

Prior to construction or commencement of any activity that, in the absence of fencing, is likely to directly or indirectly adversely affect covered species, flagging or exclusion fencing for the species will be installed around the perimeter of the activity footprint, 6F7 or otherwise to ensure species protection.

Any exemption or modification of flagging or exclusion fencing requirements will be based on the specifics of the activity, site-specific population, or habitat parameters. Sites with low population density and disturbed, fragmented, or poor habitat will likely be candidates for flagging or fencing requirement exemptions or modifications. Substitute measures, such as onsite biological monitors in the place of the flagging or fencing requirement, will be performed as appropriate.

Prior to flagging or fencing, the qualified individual will ensure (to the extent feasible) that covered special-status species are absent from the activity footprint. After an area is flagged or fenced, PG&E is responsible for ensuring that covered special-status species flagging or fencing is maintained and opened/closed appropriately during project activities and regularly inspected for damage, which will be repaired as soon as possible.

This measure will also be applied when conducting covered activities E9a (Reconductoring), G9 (Pipeline Lowering), G11 (Pipeline Replacement), and minor new construction when these activities are likely to adversely affect special-status species. PG&E may also apply this measure to other covered activities to protect special status species and habitats based on recommendations from qualified biologists.

CM BIO-6

(APM BIO-6): Protect nesting birds

(Replaces DEIR MM-BIO 7: Nesting Bird Management; Replaces DEIR MM-BIO 9: Swainson's Hawk; Replaces DEIR MM-BIO 10: Golden Eagle)

All vegetation clearing and ground-disturbing activities will be conducted outside of the nesting season (generally March 1–August 31) to the extent feasible. If this is not feasible, a biologist or qualified individual will determine if pre-construction activity surveys, nest buffers, and/or monitoring are needed in accordance with PG&E's Nesting Bird Management Plan. Nesting bird surveys will be scheduled to occur within a timeframe prior to construction the activity that is suitable for the detection of recently established nests. If active nests containing eggs or young are found, the qualified biologist or individual will establish an appropriate nest buffer in accordance with the species-specific buffers in PG&E's Nesting Bird Management Plan. Nest buffers under the Plan will be species-specific and can range from 15 to 100 feet for passerines, 50 to 300 feet for raptors, or larger if necessary, depending on the planned activity's level of disturbance, site conditions, and the observed bird behavior. Covered activities will not commence within the established buffer areas until the qualified biologist or individual determines that the young have fledged or the nest is no longer active. Active nests will be periodically monitored until the young have fledged or the activity all construction is finished. If birds with active nests are observed showing behavioral signs of agitation (e.g., standing up from a brooding position, flying off the nest) during covered activities, the buffer will be increased to a distance in which the behavioral signs of agitation cease, in accordance with PG&E's Nesting Bird Management Plan.

As part of the ITP annual report, PG&E will provide a summary of covered activities where the Nesting Bird Management Plan was implemented; the summary will include the location, dates, species (if known), and nest buffers applied to the covered activity including buffer efficacy.

(The Nesting Bird Management Plan is intended to maintain compliance with federal and state bird protection regulations through a standardized approach to avoiding and minimizing disturbance to nesting birds, including burrowing owl [see APM BIO-6a].)

CM BIO-6a

(APM BIO-6a): Western burrowing owl avoidance

(Replaces MM BIO-8: Burrowing Owl)

If burrowing owls are observed during any covered activities, a qualified biologist will be contacted immediately. The qualified biologist will determine measures to avoid impacts burrowing owls. For ground disturbing activities greater than 0.1 acre in suitable burrowing owl habitat a qualified biologist will conduct a survey at least 14 days prior and again 24 hours prior to the activity to determine the presence/absence of active burrowing owl nesting or wintering burrows within 250 feet of a work area. If owls or sign are detected and work needs to occur within 250 feet, PG&E will implement measures to avoid nest abandonment such as rescheduling the work, screening work areas, minimizing pedestrian access within 250 feet, and evaluating owl's tolerance to disturbance, and report results to CDFW annually.

CM BIO-7

(APM BIO-7): Protect breeding and pupping bats

When feasible, activities directly affecting bat roosting habitat will be conducted outside of the bat breeding/pupping season (generally, April through mid-September). If work that would affect known bat breeding sites must be done in the bat breeding/pupping season, a qualified biologist would evaluate known breeding/roosting sites or conduct surveys for bat roosts in suitable breeding/roosting sites (e.g., bridges, mines, caves, trees with hollows, palm trees, snags, buildings, long and dark culverts, rock outcrops, dense tree canopies, and flaking tree bark). If evidence of a bat maternity roost is found or maternity roosts are detected, PG&E will avoid conducting covered activities that may directly affect the active roost site, including the following:

If a maternity roost is identified then the qualified bat biologist will develop a Bat Avoidance and Monitoring Plan prior to the start of project activities that shall include: (1) an assessment of all impacts to bats from the activity, including noise disturbance during covered activities and (2) effective avoidance and minimization measures to protect bats in order to ensure that direct impact to active bat maternity roost site do not occur. Notification will be provided to CDFW prior to the start of covered activities. The notification will include a copy of the Bat Avoidance and Monitoring Plan. If direct impacts to identified maternity roost sites cannot be avoided, PG&E will provide a compensatory mitigation plan to CDFW for review and approval.

- As necessary, an exclusionary buffer will be maintained around active roosts. The size of the buffer will be determined by the qualified biologist based on factors such as the planned activity's level of disturbance and site conditions and will typically be 250 feet.
- As necessary, a qualified biologist will monitor active roost site buffers during O&M activities to determine if roosting activity is influenced by noise or vibrations until a qualified biologist has determined if the young bats are volant (i.e., able to fly) or the roost is unoccupied.
- When feasible, to protect bats and in accordance with BMP-30, tree work near riparian zones shall be conducted during the dry season (generally May 15–October 15). If it is not feasible to conduct tree work during the dry season, operations will occur between rain events or during dry spells unless there is an emergency or imminent threat to life or property.

CM BIO-8**(APM BIO-8): Avoid Alameda whipsnake in core habitat****(Replaces DEIR MM BIO-6: Alameda Whipsnake Avoidance)**

Prior to the start of construction in core habitat (i.e., areas of concentrated use; habitat in core areas primarily consists of scrub communities such as coastal scrub, coyote brush scrub, mixed chaparral, and chamise chaparral but may also include immediately adjacent grassland), the work area will be visually surveyed for Alameda whipsnakes by a qualified biologist. If a whipsnake is encountered during construction, activities will stop and the qualified biologist will then identify actions sufficient to avoid impacts on the species (e.g., continued work halt, buffer establishment) and the whipsnake will be allowed to leave the area on its own volition. Activities could resume when the qualified biologist determines that activities will not adversely affect the whipsnake or that the whipsnake has moved a sufficient distance from the work area such that activities will not adversely affect the whipsnake.

CM BIO-9**(APM BIO-9): San Joaquin kit fox/American badger****(Replaces MM BIO-14: San Joaquin Kit Fox Avoidance and Minimization; Replaces MM BIO-16: American Badger)**

When ground disturbance exceeding 0.5 acre is planned within suitable habitat and range of San Joaquin kit fox or American badger, a qualified biologist familiar with these species and experienced in conducting surveys will survey the work area no more than 30 days prior to the covered activity to determine if potential San Joaquin kit fox or American badger dens are present. If potential dens are located within the proposed activity footprint and cannot be avoided during the activity, a biologist will determine if potential dens are occupied. All potential dens within the activity footprint will be dusted with appropriate tracking substrate or monitored with a motion-sensor camera for a minimum of 3 days to determine occupancy, unless scat, discarded bones, and tracks are observed and the den is presumed occupied. If potential dens are determined to be unoccupied and cannot be avoided, no further action is needed. Otherwise, potential dens within the project footprint or within 200 feet will be avoided where possible, or the following steps will be taken. If an occupied or natal/pupping den is discovered within the activity area or within 200 feet of the project boundary, PG&E shall contact CDFW to discuss protective measures and the need for a permit. Under no circumstances will an occupied or natal/pupping den be destroyed. In the suitable habitat and range of San Joaquin kit fox and American badger, exit ramps will be installed at each end of excavated trenches.