



Appendix E - Mitigation Monitoring and Reporting Plan

PG&E's Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531)

Nevada and Placer Counties, California
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Prepared for:

State Water Resources Control Board

Prepared by:

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1.0 Mitigation Monitoring and Reporting Plan

1.1 Introduction

Pacific Gas and Electric Company (PG&E) owns and operates the Upper Drum-Spaulding Hydroelectric Project located in Placer and Nevada Counties in California and the Lower Drum Hydroelectric Project located in Placer County, California. Two proposed projects are addressed in this document: the Proposed Upper Drum-Spaulding Hydroelectric Project (Proposed Upper Drum-Spaulding Project) that consists of the continued operation of the Upper Drum-Spaulding Hydroelectric Project, Federal Energy Regulatory Commission (FERC) Project No. 2310, and the Proposed Lower Drum Hydroelectric Project (Proposed Lower Drum Project) that consists of the continued operation of the Lower Drum Hydroelectric Project, FERC Project No. 14531, pursuant to separate new 30- to 50-year FERC licenses (together, Proposed Projects).

1.2 Environmental Commitments

As part of the license application and in coordination with resource agencies and public stakeholders, management plans for various environmental resources were developed and would be implemented throughout the term of the license during operation and maintenance of the Proposed Projects. Measures included in these plans are considered a commitment of the Proposed Projects and therefore are not included in mitigation measures under CEQA. A full list of management plans associated with the Proposed Projects can be found in Volume II of the Final License Application¹ and in FERC's Final Environmental Impact Statement.² In some instances, the license article will direct PG&E to develop a management plan in collaboration with resource agencies and stakeholders once the license is issued. These new plans will become part of the new license and are considered a similar commitment to the management plans already prepared. These management plans have their own detailed reporting and verification procedures.

¹ Pacific Gas and Electric Company (PG&E). 2011. Application for New License, Drum-Spaulding Project FERC Project No. 2310-173. Accessed November 10, 2020. <http://www.eurekasw.com/DS/Final%20License%20Application/Forms/AllItems.aspx>.

² Federal Energy Regulatory Commission (FERC). 2014. Final Environmental Impact Statement for Hydropower License. Accessed November 10, 2020. https://elibrary.ferc.gov/eLibrary/filelist?document_id=14283202&optimized=false

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and Lower Drum Hydroelectric Project (FERC No. 14531)

Specific management plans discussed in the IS/MND for the Proposed Projects include the following:

- Bald Eagle Management Plan
- Erosion and Sediment Control Management Plan
- Fish Protection and Management During Canal Outages Plan
- Foothill Yellow-Legged Frog Monitoring Plan
- Integrated Vegetation Management Plan
- Recreational Facilities Plan
- Riparian Vegetation Monitoring Plan
- Transportation Management Plan
- Valley Elderberry Longhorn Beetle Conservation Program
- Visual Resource Management Plan

1.3 Mitigation Measures

This Mitigation Monitoring and Reporting Plan (MMRP) has been prepared pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 *et seq.*) and sections 15074 and 15097 of the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 *et seq.*). A master copy of this MMRP shall be kept in the office of PG&E and shall be available for viewing upon request.

Mitigation measures under CEQA are shown in Table 1. This program corresponds to the Initial Study/Mitigated Negative Declaration (IS/MND) for the Proposed Projects. For each mitigation measure, the frequency of monitoring and the responsible monitoring entity is identified. Mitigation measures may be shown in submittals and may be checked only once, or they may require monitoring periodically during and/or after routine maintenance and operation activities. Once a mitigation measure or BMP is complete, the responsible monitoring entity shall date and initial the corresponding cell, and indicate how effective the mitigation measure was.

Table 1. Mitigation Monitoring and Reporting Plan						
Environmental Issue in IS/MND	Mitigation Measure Number	Mitigation Measure Description	Responsible Party and Applicable Project	Reporting Requirements & Verification of Compliance	Timing	Verification of Compliance
Biological Resources						
Biologist Review	MM-BIO-1	Prior to the start of activities associated with the Proposed Projects that have the potential for in-water work or significant ground disturbance and/or vegetation removal (for example, activities other than those listed in Section 3.2 of the IVMP), a qualified biologist shall conduct a desktop or field review, as appropriate, to determine whether any sensitive biological resources (special-status species, sensitive communities, aquatic resources, etc.) have the potential to be affected by the proposed activity. If special-status species and/or sensitive biological resources could be affected by the proposed activity, the biologist shall determine what avoidance, minimization, and mitigation measures are required to avoid impacts and PG&E will implement those measures. If the qualified biologist determines that the proposed activity would have no impact on special-status species or sensitive biological resources, then no further steps will be necessary.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Pre-work report on sensitive biological resources.	Prior to initiation of activities.	Maintain pre-work report for one year after project completion
Biological Monitor	MM-BIO-2	Prior to the start of an activity associated with the Proposed Projects, if deemed necessary during the review in MM-BIO-1, a qualified biologist(s) shall monitor activities that could affect special-status species and/or sensitive biological resources. The amount and duration of monitoring would depend on the activity and would be determined by the qualified biologist, and monitoring reports would be provided as specified in applicable permits. In addition to standard field monitoring, the duties of the qualified biologist shall comply with all conditions contained in permits and licenses associated with the Proposed Projects, but could include activities such as clearance surveys, flagging or	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Monitoring Reports	Prior to and during activities.	Maintain monitoring reports for one year after project completion

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		fencing off environmentally sensitive areas for avoidance, and monitoring. If deemed necessary during the review in MM-BIO-1, the biological monitor shall conduct clearance surveys for special-status species prior to the start of activities associated with the Proposed Projects on the first scheduled day of work, prior to the commencement of any work. In the event that individuals are found within or directly adjacent to the disturbance areas, the area shall be left unaffected until the individual(s) have left the area or a relocation decision has been made in consultation with the appropriate agencies (for example, USFWS, BLM, CDFW, and Forest Service).				
Minimizing Footprint	MM-BIO-3	During all activities associated with the Proposed Projects, the work areas shall be reduced to the smallest possible footprint. All parking, storage areas, laydown and staging sites, and any other surface-disturbing activities shall be limited to previously disturbed areas whenever possible. Any sensitive areas to be avoided during Proposed Project activities shall be fenced and/or flagged as close to work limits as feasible.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Work area flagging and fencing	Prior to and during activities.	Document with photographs and maintain documentation for one year after completion of work.
Special-status Plant Surveys	MM-PLANT-1	Prior to the start of activities associated with the Proposed Projects that have the potential for significant ground disturbance and/or vegetation removal (for example, activities other than those listed in Section 3.2 of the IVMP), a review for the most recent botanical survey data shall be conducted to determine whether any known populations of special-status plants occur within 500 feet of the proposed disturbance footprint. A special-status plant survey conducted by a qualified botanist shall be required if one of the following circumstances applies: • There are known special-status plant populations within 500 feet of the	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Pre-work report on special status plants	Surveys shall be scheduled to coincide with known blooming periods, and/or during appropriate developmental periods that are necessary to identify the plant species of concern.	Maintain pre-work survey for one year after project completion



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		disturbance area and botanical surveys have not been conducted in the proposed disturbance footprint in the last 5 years. The survey would determine whether nearby special-status plant populations have spread into the disturbance area. There are known special-status plant populations in the proposed disturbance area. The survey would determine the current extent of the special-status plant population that could be directly affected by activities. These surveys shall document whether special-status plants may be affected by the activity and shall be conducted in accordance with CDFW's Protocols for Surveying and Evaluating Effects on Special-Status Native Plant Populations and Sensitive Natural Communities (2018). Surveys shall be scheduled to coincide with known blooming periods, and/or during appropriate developmental periods that are necessary to identify the plant species of concern. If neither of the above circumstances apply, then no surveys are required.				
Special-status Plant Avoidance	MM-PLANT-2	If any state-listed, federally listed, FSS (on Tahoe National Forest land), and/or CNPS List 1 or CNPS List 2 plant species are found within 100 feet of disturbance areas during the surveys, these plant species shall be avoided to the greatest extent possible and the following shall be implemented: Any special-status plant species that are identified in or adjacent to the proposed disturbance areas, but not proposed to be disturbed, shall be protected by flagging, signage, orange plastic fence, and/or silt fence as appropriate based on site	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Pre-work report on FSS, CNPS List 1 and 2 plants. Transplant verification report	Prior to and during activities.	Maintain pre-work survey for one year after project completion And Maintain transplant verification report for three years after transplant

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		conditions to limit the effects of activities and material stockpiles on any special-status plant species. If activities would result in the loss of greater than 10 percent of a population identified in the IVMP survey or occupied habitat for a special-status plant species, PG&E will consult with the agency with jurisdiction over the species and, if required, develop in consultation with that agency a mitigation plan that will describe a program to transplant, salvage, cultivate, and reestablish the species at suitable sites (if feasible); payment to an in-lieu fee program, if available; means and methods to propagate affected special-status plants through vegetative or reproductive means (for example, harvesting of seed or seed bank through topsoil collection, salvaging and transplanting or collecting of cuttings), as appropriate for the species, and transplant at suitable receiving sites as close to the existing population as possible. Propagation and transplantation shall occur prior to initiation of the activity. The receiving location shall be evaluated and chosen based on similarity to conditions at the transplant source location. Site conditions to consider when choosing a receiving site shall include aspect, substrate, hydrology, associated species, and canopy cover. The transplanted plants shall be monitored for at least 1 year following transplantation. If the plant is an FSS species, the mitigation plan shall be submitted to the Forest Service				

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		for review and comment at least 30 days prior to implementation. - The actual level of mitigation may vary depending on the sensitivity of the species, its prevalence in the area, the location of the occurrence, and the current state of knowledge about overall population trends and threats to its survival; however, at a minimum, the species and habitat must be replaced at a 1:1 ratio (individuals or acreage of occupied habitat). - Mitigation as required in applicable regulatory permits obtained by PG&E from USFWS, CDFW, and/or the Forest Service, or through consultation during the annual meeting, will satisfy this measure.				
Western Bumble Bee Nest Avoidance	MM-BEE-1	A qualified biologist shall conduct a site review (MM-BIO-1) prior to activities that could result in significant ground disturbance and, if they determine suitable nesting and foraging habitat for western bumble bee is present in or within 50 feet, or an agreed minimum distance determined through consultation with CDFW, of the disturbance area, then nesting and foraging habitat shall be avoided. Suitable habitat shall be avoided by a minimum of 50 feet, if feasible, or work shall be done between November and February to avoid the nesting season. Western bumble bee, as of the California Fish and Game Commission’s June 12, 2019 meeting, is listed as a candidate endangered species under CESA. This measure will be implemented only if western bumble bee remains a candidate or becomes formally listed under CESA.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Pre-work site review	Prior to and during activities	Maintain pre-work site review for one year after work completion

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Western Bumble Bee Habitat Replacement	MM-BEE-2	Mitigation for permanent impacts on western bumble bee nesting and foraging habitat shall be provided at a minimum 1:1 ratio. Mitigation is to be determined in consultation with CDFW. Mitigation as required in applicable regulatory permits obtained by PG&E from CDFW or during the annual consultation meeting may be applied to satisfy this measure. Western bumble bee, as of the California Fish and Game Commission's June 12, 2019 meeting, is listed as a candidate endangered species under CESA. This measure will be implemented only if the western bumble bee remains a candidate or becomes formally listed under CESA.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))		After the completion of activities.	
Stranded/Entrained Aquatic Species Rescue and Salvage During Canal Outage Dewatering	MM-AQUATICS-1	During dewatering, and for the duration of any Proposed Projects' activities that involve dewatering of any waterbodies or waterways containing aquatic species, a qualified biologist(s) shall make a good faith effort to remove fish, frogs, turtles, and other aquatic vertebrate species in the manner described in the Fish Protection and Management During Canal Outages Plan (PG&E 2011). This measure does not apply to diversion of water from streams and canals and drawdown of impoundments for purposes of Project operations, as they are described in PG&E's FLA and FERC's Final EIS. Aquatic species rescue and salvage shall include the following, or as defined in applicable resource agency permits obtained by PG&E and approved plans: All species shall be captured using fine mesh or soft material nets and transported to release locations in a bucket, ice chest, or other carrying mechanism, with aeration devices for species that require oxygenated water. Holding time shall be no longer than 45 minutes after capture.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Dewatering Survey	During dewatering.	Maintain survey for one year after project completion

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		- Handling of aquatic species shall be minimized to the greatest extent possible. - Gloves shall always be worn during rescue and salvage efforts to minimize effects of handling to the greatest extent possible. - Prior to entering the stream or initiating any rescue and salvage activities, all gear and equipment shall be decontaminated in a designated location where runoff can be contained. - All species, except for invasive aquatic species (for example, bullfrog) shall be relocated to nearby surface waters in low enough numbers to not increase predation, and in appropriate sites to minimize the potential for reentry to the work area. - Exclusionary devices (nets, screens, etc.) shall be used on any equipment or materials that have the potential to entrain aquatic species.				
Wise-Powerhouse Downramping and Stranding Surveys in Auburn Ravine	MM-AQUATICS-2	Beginning on October 16, through April 15, water discharges to Auburn Ravine will not be decreased at a rate exceeding 0.5 foot per hour, when flows are within control of the project and when flow is below 80 cfs. Ramping rates will be measured at gage YB-259. This ramping rate shall not apply if a powerhouse relay occurs (trips offline) at either the Wise or Wise No. 2 powerhouse. If modifications are needed to existing equipment to comply with these releases, PG&E will target compliance with ramping rates until these modifications are completed. If modifications are needed, PG&E will file permits as soon as possible but within 3	PG&E (Lower Drum Hydroelectric Project (FERC No. 14531))	Survey reports.	During project operations.	Maintain survey reports for years after completion

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		years of license issuance and complete modification within 2 years of receiving final permits and approvals. No ramping rate will apply to Auburn Ravine during the irrigation season, which runs from April 16 through October 15. To ensure that ramping rates perform as assumed, stranding surveys for juvenile and adult salmonids shall be performed. The stranding surveys methods will be designed in consultation with CDFW, USFWS, and the State Water Board and will limited to the area above the Auburn Tunnel to the extent of salmonid anadromy. A qualified biologist will walk either shoreline as flows recede and become reasonably accessible. During the survey, less visible shoreline areas will be directly accessed to be viewed. Any stranded fish will be documented for its condition (alive or desiccated, life stage, visible injuries, etc.). A brief summary communication will be provided after each stranding survey within 15 days of occurrence. Stranding surveys shall be performed in the first year of implementing ramping rates and up to 10 surveys shall occur. If no stranding is observed, surveys may cease and continued implementation of the ramping rates will occur. However, if stranding is documented, the flow conditions and factors surrounding that event will be reviewed and proposed modifications will be included in an Auburn Ravine Stranding Avoidance Plan. The Stranding Avoidance Plan may include physical modification, communication protocols, modified ramping rates, or other potential solutions. An Auburn Ravine Stranding Avoidance Plan will be developed to prevent stranding of juvenile and adult salmonids in the area above the				



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		Auburn Tunnel to the extent of salmonid anadromy within 1 year of the first documented stranding survey. The Auburn Stranding Avoidance Plan will be developed with consultation with CDFW, USFWS, and the State Water Board and be submitted to the State Water Board for approval. The Auburn Ravine Stranding Avoidance Plan will include, at minimum, protocols for PG&E to communicate with other entities regarding PG&E's releases that affect flows in Auburn Ravine and ramping rates that are protective of juvenile and adult salmonids. PG&E will, within 4 months of documenting stranding, invite, at a minimum by letter, NID and PCWA to participate in the collaborative development of the communication protocols. If NID and PCWA decline to participate in development of the Plan or the parties cannot reach agreement on the Auburn Ravine Stranding Avoidance Plan, PG&E will submit the Auburn Ravine Stranding Avoidance Plan as described above.				
No Net Loss of Listed Frog Habitat	MM-AQUATICS-3	Mitigation for permanent impacts on Sierra Nevada yellow-legged frog, California red-legged frog, or foothill yellow-legged frog aquatic habitat shall be provided at a minimum 1:1 ratio if required in regulatory permits issued through USFWS or CDFW. Mitigation, as required in the applicable regulatory permits obtained by PG&E from USFWS or CDFW, will satisfy this measure. This measure will be in effect as long as these species are protected under ESA, CESA or other similar federal or state laws.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))		After completion of activities.	
Migratory Bird and Raptor Surveys	MM-BIRDS-1	Vegetation clearing should be conducted outside of the nesting season whenever possible. If activities requiring vegetation clearing or significant ground disturbance occur during the migratory bird nesting season (February 1 to August 31), then surveys to identify active migratory bird and/or raptor nests shall be	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Pre-work survey	Prior to initiation of and during activities.	Pre-work survey maintained

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		conducted by a qualified biologist within 7 days prior to activity initiation. Focused surveys shall be performed by a qualified biologist for the purposes of determining the presence/absence of active nest sites within the disturbance area, including access routes. The qualified biologist will determine the area of the surveys.				
Nest Avoidance	MM-BIRDS-2	If active nest sites are identified in or adjacent to disturbance areas, a no-disturbance buffer shall be established for all active nest sites prior to commencement of the relevant activities. A no-disturbance buffer constitutes a zone in which activities shall not occur. The size of no-disturbance buffers shall be determined by a qualified biologist based on the species, activities proposed in the vicinity of the nest, topographic and other visual barriers, and buffer requirements as defined in the IVMP. No-disturbance buffers will have a minimum size of 50 feet unless a qualified biologist determines site-specific conditions such as topographic or other visual barriers, low disturbance potential, proximity to existing human activity or development, or observed nesting bird behavior deem otherwise. The no-disturbance buffer shall be left in place until a nest is deemed inactive by a qualified biologist or the work is complete, whichever occurs first.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))		Prior to and during activities	
Bat Surveys and Avoidance	MM-BATS-1	A qualified biologist shall conduct a site review (MM-BIO-1) prior to activities that could result in significant vegetation clearing, and if the biologist determines suitable roosting habitat for special-status bats is present in or within 100 feet of an activity in an undisturbed area, then bats would be protected in a similar manner as described in the Bat Management Plan included in the new license. Unless otherwise specified in the plan, activities shall occur outside of the typical roosting season (April 1 to August 31). If activities associated with the Proposed Projects	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Reporting consistent with the Bat Management Plan required by FERC.	Prior to and during activities.	



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		cannot occur outside the roosting season, daytime reconnaissance surveys shall be completed by a qualified biologist prior to implementation of activities other than continued operation of the Proposed Projects in a manner that does not create any new impacts. The biologist, focused on suitable day roosting habitat such as rocky outcrops and trees, shall look for bats and bat signs including existing roost sites and bat guano deposits, and shall listen for roosting bats. If potential roost sites are identified, an exit nighttime survey shall be conducted to determine the species of roosting bats and relative bat activity, and to estimate the number of individual bats. This nighttime survey may be an active or passive acoustic monitoring survey. If occupied bat roost sites are identified, appropriate spatial and temporal buffers shall be implemented to avoid and minimize impacts on roosting bats during Proposed Project activities by prohibiting activities within the buffer. The size of the buffers (minimum buffer of 50 feet unless a reduced buffer is accepted by CDFW) shall be determined by a qualified biologist based on the species, activities proposed in the vicinity of the nest, and topographic and other visual barriers. The buffers shall be left in place until a nest is deemed inactive by a qualified biologist. The size of the buffers may also be determined during the annual consultation meetings. If the daytime survey does not identify the presence of potential bat roosts, no further mitigation is required.					
Breeding Surveys	Mammal	MM-MAMMAL-1	A qualified biologist shall conduct a site review (MM-BIO-1) prior to activities that could result in significant ground disturbance or vegetation clearing and if the biologist determines suitable denning or breeding habitat for special-status mammals is present in or adjacent to an activity, then focused surveys shall be performed by a	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Pre-work survey	Prior to initiation of activities.	Maintain pre-work survey for one year following completion of work

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		qualified biologist for the purposes of determining the presence/absence of active denning or breeding sites in the disturbance area. The disturbance area includes a required buffer of 50 feet around active dens and breeding sites for small mammals (for example, squirrels, rats, mice, rabbits) and 150 feet around active dens and breeding sites for larger mammal dens (for example, foxes and badgers). If active denning or breeding sites are identified within disturbance areas, the applicant shall implement an LOP for all active den/breeding sites prior to commencement of any Proposed Project activities, other than continued operation of the Proposed Projects in a manner that does not create any new impacts, to avoid disturbances to breeding activities and/or habitat for special-status mammal species. An LOP constitutes a period during which activities (that is, vegetation removal, earth moving) shall not occur, and shall be in effect during the breeding season for the given species within the required buffer of any active denning or breeding sites until a qualified biologist deems breeding is inactive and the LOP can be lifted. Survey reports, as required by agencies with jurisdiction over the resource, will be provided.				
Riparian, Wetlands, and Aquatic Resources Management Plan	MM-COMMS-1	A Riparian, Wetlands, and Aquatic Resources Management Plan shall be developed and implemented to mitigate potential impacts attributable to Proposed Project activities, such as activities that have the potential to cause permanent, temporary, or temporal impacts on aquatic resources, wetlands, and riparian areas associated with the Proposed Projects. The Riparian, Wetlands, and Aquatic Resources Management Plan shall, at a minimum, include:	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Riparian, Wetlands, and Aquatic Resources Management Plan	Prior to and during activities.	

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		• Protocols used to delineate riparian and wetland areas and description of avoidance and minimization measures to be implemented; • Delineation or description of aquatic sensitive communities potentially affected by Proposed Project activities; • Description of Proposed Project activities with the potential to affect sensitive communities; • Adaptive management actions that will be implemented if water quality objectives are determined to be adversely affected by the Proposed Project activities; and • Reporting to the State Water Board. Mitigation for permanent impacts on aquatic resources, riparian, and wetland communities shall be provided at a minimum 1:1 ratio as described in the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Water Board 2019). Mitigation may include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank. Mitigation as required in applicable regulatory permits obtained by PG&E from CDFW, USACE, or the Forest Service may be applied to satisfy this measure. Alternatively, mitigation coordinated with these agencies during the annual consultation meeting may be applied to satisfy this measure. For this measure, aquatic resources are defined as waters protected under Sections 401 and Section 404 of the Clean Water Act and CDFW,				

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		Sections 1600–1603 of the California Fish and Game Code.				
No Net Loss of Sensitive Communities	MM-COMMS-2	A qualified biologist shall conduct a site review (MM-BIO-1) prior to activities that could result in significant vegetation removal to determine whether sensitive communities such as sensitive quaking aspen or Rank S1–S3 communities as defined by Manual of California Vegetation, Second Edition (Sawyer et al. 2009) could be affected. If sensitive communities are determined to be present, then impacts would be avoided to the greatest extent possible. Should permanent impacts on sensitive communities be required for maintenance, mitigation shall be provided at a minimum 1:1 ratio. Mitigation may include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank. Mitigation, including a determination that no mitigation is needed, as required through coordination with the Forest Service, or agreed upon during the annual consultation meeting, will satisfy this measure.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))		After completion of activities.	
Geology and Soils						
Implement Standard Best Management Practices	MM-GEO-1	The following standard BMPs will be implemented during routine maintenance: - All heavy equipment, vehicles, and work activities will be confined to existing roads, road shoulders, and disturbed/developed or designated work areas. Work areas will be limited to what is necessary to complete work to the extent reasonably possible. - Vehicular speeds will be limited to 15 miles per hour on unpaved roads.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Specific resource mitigation plan	During activities.	

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		- Control measures for erosion, excessive sedimentation, and sources of turbidity will be implemented and in place prior to the commencement of, during, and after any ground clearing activities, excavation, or any other activities that could result in erosion or sediment discharges to surface water. - Caution will be used when handling and/or storing chemicals (for example, fuel, hydraulic fluid) near waterways. The Proposed Projects will comply with any and all applicable laws and regulations related to the handling and storage of chemicals. Appropriate materials will be on site to prevent and manage spills. - When not in use, equipment will be stored in upland areas outside the boundaries of waterways. - All equipment will be inspected for leaks before being brought on site. All equipment will be well-maintained and inspected daily while on site to prevent leaks of fuels, lubricants, or other fluids into waters of the United States or waters of the state. Stationary equipment (for example, generators) within 100 feet of aquatic habitat will be parked over secondary containment. - Service and refueling procedures will be conducted in a designated area where no potential exists for fuel spills to seep or wash into waterways. - Stockpiles will be located outside of riparian habitat and protected with				

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		appropriate stockpile management BMPs. If more than 0.25 inch of rain is forecast during work periods, all spoil piles will be covered with plastic and surrounded with sediment control technologies or berms to prevent sediment runoff.				
Paleontological Resources	MM-GEO-2	Before the start of maintenance activities, personnel involved with ground-disturbing activities shall be informed of the proper notification procedures if fossils are encountered. If paleontological resources are encountered during ground-disturbing activities, the work crew shall immediately stop work and a qualified paleontologist shall evaluate the resource and prepare a proposed mitigation plan based on the situation prior to continuation of the activity.	PG&E (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	Specific resource mitigation plan	Prior to and during activities.	
Tribal Cultural Resources						
Implementation of the Historic Properties Management Plan	MM-TCR-1	In accordance with the provisions provided with Section 5.8 and 5.9 of the HPMP, consultation will occur with Native American tribes on an activity-by-activity basis to ensure no adverse impacts will occur. If a resource is determined to be a TCR as defined by the Public Resources Code, Section 20174, during consultation under Sections 5.8 and 5.9 of the HPMP, appropriate site-specific mitigations will be developed consistent with Public Resources Code Section 21084.3, and impacts will be reduced to a less than significant level pursuant to Section 5.10 of the HPMP.	TBD (Upper Drum-Spaulding Hydroelectric Project (FERC No. 2310) and Lower Drum Hydroelectric Project (FERC No. 14531))	TBD	TBD	TBD