

**STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD**

In the Matter of Water Quality Certification for

**PACIFIC GAS AND ELECTRIC COMPANY
PHOENIX HYDROELECTRIC PROJECT**

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 1061

SOURCE: South Fork Stanislaus River

COUNTY: Tuolumne

DRAFT WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

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Acronyms and Abbreviations

<i>Antidegradation Policy</i>	<i>Statement of Policy with Respect to Maintaining High Quality Waters in California</i>
<i>Aquatic Weed Control</i>	<i>Statewide National Pollutant Discharge Elimination System Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications</i>
<i>Permit</i>	
<i>Bay-Delta</i>	<i>San Francisco Bay/Sacramento-San Joaquin Delta Estuary</i>
<i>Bay-Delta Plan</i>	<i>Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary</i>
<i>BLM</i>	<i>United States Bureau of Land Management</i>
<i>CDFW</i>	<i>California Department of Fish and Wildlife</i>
<i>CEQA</i>	<i>California Environmental Quality Act</i>
<i>Central Valley Regional Water Board</i>	<i>Central Valley Regional Water Quality Control Board</i>
<i>certification</i>	<i>water quality certification</i>
<i>cfs</i>	<i>cubic feet per second</i>
<i>Construction General Permit</i>	<i>National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities</i>
<i>Deputy Director</i>	<i>Deputy Director of the Division of Water Rights</i>
<i>Dredge or Fill Procedures</i>	<i>State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State</i>
<i>DWR</i>	<i>Department of Water Resources</i>
<i>eLibrary</i>	<i>FERC electronic records information system</i>
<i>FERC</i>	<i>Federal Energy Regulatory Commission</i>
<i>FLA</i>	<i>Final License Application</i>
<i>FYLFs</i>	<i>foothill yellow-legged frogs</i>
<i>Forest Service</i>	<i>United States Department of Agriculture Forest Service</i>
<i>IS</i>	<i>Initial Study</i>
<i>Licensee</i>	<i>Pacific Gas and Electric Company</i>
<i>MTC</i>	<i>Main Tuolumne Canal</i>
<i>ND</i>	<i>negative declaration</i>
<i>Msl</i>	<i>mean sea level</i>
<i>NPDES</i>	<i>National Pollutant Discharge Elimination System</i>
<i>PG&E</i>	<i>Pacific Gas and Electric Company</i>
<i>REA</i>	<i>Ready for Environmental Analysis</i>
<i>Regional Water Boards</i>	<i>Regional Water Quality Control Boards</i>

<i>Resource Agencies</i>	<i>United States Department of Agriculture, Forest Service; United States Fish and Wildlife Service; State Water Resources Control Board; and California Department of Fish and Wildlife</i>
<i>SFSR</i>	<i>South Fork Stanislaus River</i>
<i>SR/SJR Basin Plan</i>	<i>Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin</i>
<i>State Water Board</i>	<i>State Water Resources Control Board</i>
<i>TMDLs</i>	<i>total maximum daily loads</i>
<i>TUD</i>	<i>Tuolumne Utilities District</i>
<i>USEPA</i>	<i>United States Environmental Protection Agency</i>
<i>USFWS</i>	<i>United States Fish and Wildlife Service</i>
<i>USGS</i>	<i>United States Geological Survey</i>
<i>Water Boards</i>	<i>State Water Resources Control Board and Regional Water Quality Control Boards, collectively</i>

1.0 Project Description

The Pacific Gas and Electric Company (PG&E) owns and operates the Phoenix Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 1061. The Project is located along the South Fork Stanislaus River (SFSR) in Tuolumne County, California approximately 10 miles northeast of the town of Sonora (Figure 1). The Project provides water to the Tuolumne Utilities District (TUD), generates power, and is required to meet streamflow requirements for the SFSR.

The major components of the Project include: Lyons Dam and Reservoir; a cushion dam about 80 feet downstream of Lyons Dam; the Main Tuolumne Canal (MTC); Phoenix Header Box (forebay to the powerhouse); a penstock; and the Phoenix Powerhouse. Water enters the Project from the SFSR, and is released from Lyons Dam (the uppermost Project component), either through the low-level outlet or radial gates, from which water flows into the cushion dam approximately 80 feet downstream of Lyons Dam. From the cushion dam, water is diverted into the MTC or discharged to the SFSR to meet instream flow requirements. The SFSR downstream of the cushion dam flows from an elevation of about 4,200 feet above mean sea level (msl) to approximately 1,110 feet above msl at New Melones Reservoir. Some of the water diverted into the MTC is delivered to TUD at multiple locations along the MTC. Water that is not delivered to TUD along the MTC ultimately reaches the Phoenix Powerhouse penstock and thereby the Phoenix Powerhouse. From the Phoenix Powerhouse, water is discharged to Powerhouse Creek and ultimately to TUD’s Phoenix Reservoir for consumptive use. Public recreational opportunities in the Project boundary include day use areas with fishing opportunities at Lyons Reservoir and the MTC section 4 ditch as well as various hiking trails.

The Phoenix Powerhouse is located at the upper end of the Tuolumne Water System, a domestic water supply system owned by TUD. The Phoenix Powerhouse has an installed generation capacity of 1.6 megawatts. PG&E is not proposing new developments; however, PG&E is proposing to modify the existing Project boundary to encompass all facilities necessary for operation and maintenance of the Project.

2.0 Water Rights

Table A lists the Project-related water rights claimed by PG&E.

Table A. Water Rights/Claims Held by PG&E for the Project*

Application No.	Source Stream	Priority Date**	Place of Storage or Diversion	Purpose of Use
A006129	South Fork Stanislaus River	1928	Storage in Lyons Reservoir	Power Generation
A006130	South Fork Stanislaus River	1928	Storage in Lyons Reservoir	Irrigation and Domestic

Application No.	Source Stream	Priority Date**	Place of Storage or Diversion	Purpose of Use
S000993	South Fork Stanislaus River	1856	Storage in Pinecrest Reservoir	Irrigation, Domestic, and Power Generation
S000995	South Fork Stanislaus River	1851	Diversion to Tuolumne Canal	Irrigation, Domestic, and Power Generation
S009036	South Fork Stanislaus River	1897	Storage in Lyons Reservoir	Irrigation, Domestic, and Power Generation

* Information is from the State Water Resources Control Board’s electronic Water Rights Information Management System.

** For priority dates listed prior to 1914, PG&E claims a pre-1914 water right with these years identified as first year of use. This water quality certification does not validate PG&E’s pre-1914 water rights claims.

3.0 Federal Energy Regulatory Commission Proceedings

On August 24, 2020, PG&E filed a final license application (FLA) with FERC proposing to relicense the Project. On July 2, 2021, FERC issued a Notice of Application Ready for Environmental Analysis and Soliciting Comments, Recommendations, Terms and Conditions, and Prescriptions (REA) for the Project. The REA included FERC’s anticipated date of September 2022 to issue its Final Environmental Assessment pursuant to National Environmental Policy Act requirements. The State Water Resources Control Board (State Water Board) submitted a notice to intervene on the FERC proceedings on March 4, 2021, and preliminary terms and conditions for the Project on August 27, 2021.

4.0 Regulatory Authority

4.1 Water Quality Certification and Related Authorities

The federal Clean Water Act (33 U.S.C. §§ 1251-1388) was enacted “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” (33 U.S.C. § 1251(a).) The Clean Water Act relies significantly on state participation and support in light of “the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution” and “plan the development and use” of water resources. (33 U.S.C. § 1251(b).) Section 101 of the Clean Water Act (33 U.S.C. § 1251(g)) requires federal agencies to “co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.”

Section 401 of the Clean Water Act (33 U.S.C. § 1341) requires any applicant for a federal license or permit that may result in a discharge into navigable waters to provide

the licensing or permitting federal agency with a water quality certification (certification) that the project will comply with specified provisions of the Clean Water Act, including water quality standards promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Clean Water Act section 401 directs the agency responsible for certification to set effluent limitations and other conditions necessary to ensure compliance with the Clean Water Act and with “any other appropriate requirement of State law.” (33 U.S.C. § 1341(d).) Section 401 further provides that certification conditions shall become conditions of any federal license or permit for the project.

The State Water Board is the state agency responsible for Clean Water Act section 401 certification in California. (Wat. Code, § 13160.) The State Water Board has delegated authority to act on applications for certification to the Executive Director of the State Water Board. (Cal. Code Regs., tit. 23, § 3838, subd. (a).) (State Water Board 2012A)

Water Code section 13383 authorizes the State Water Board to “establish monitoring, inspection, entry, reporting, and recordkeeping requirements” and obtain “other information as may be reasonably required” for activities subject to certification under section 401 of the Clean Water Act. For activities that involve the diversion of water for beneficial use, the State Water Board delegated this authority to the Deputy Director of the Division of Water Rights (Deputy Director), as provided for in State Water Board Resolution No. 2012-0029 (State Water Board 2012B). In the *Redelegation of Authorities* memorandum issued by the Deputy Director on June 6, 2022, this authority is redelegated to the Assistant Deputy Directors of the Division of Water Rights (State Water Board 2022A).

On July 13, 2021, PG&E requested a certification application pre-filing meeting for the Project. On August 26, 2021, PG&E filed a certification application for the Project with the State Water Board under section 401 of the Clean Water Act. On March 11, 2022, State Water Board staff provided public notice of the application, pursuant to California Code of Regulations, title 23, section 3858, by posting information describing the Project on the State Water Board’s website.

4.2 Water Quality Control Plans and Related Authorities

The State Water Board’s certification for the Project must ensure compliance with applicable water quality standards and water quality objectives. Water quality control plans designate the beneficial uses of water that are to be protected (such as municipal and industrial, agricultural, and fish and wildlife beneficial uses), water quality objectives for the reasonable protection of the beneficial uses and the prevention of nuisance, and a program of implementation to achieve the water quality objectives. (Wat. Code, §§ 13241, 13050, subds. (h), (j).) The beneficial uses, together with the water quality objectives contained in the water quality control plans and applicable state and federal anti-degradation requirements, constitute California’s water quality standards for purposes of the Clean Water Act. In issuing certification for a project, the State Water Board must ensure consistency with the designated beneficial uses of waters affected by the project, the water quality objectives developed to protect those uses, and anti-degradation requirements. (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 714-719 (*PUD No. 1*).)

The California Regional Water Quality Control Boards (Regional Water Boards) have primary responsibility for the formulation and adoption of water quality control plans for their respective regions, subject to State Water Board and United States Environmental Protection Agency (USEPA) approval, as appropriate. (Wat. Code, § 13240 et seq.) As noted above, the State Water Board may also adopt water quality control plans¹, which will supersede regional water quality control plans for the same waters to the extent of any conflict. (*Id.*, § 13170.) The State Water Board and Regional Water Boards (collectively Water Boards) adopt the plans pursuant to their authorities under the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) and the federal Clean Water Act (33 U.S.C. § 1313).

Sacramento and San Joaquin Rivers Basin Plan

The Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) adopted, and the State Water Board and the USEPA approved, the *Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basins* (Central Valley Regional Water Board 2018). Basin plans are adopted and periodically revised pursuant to Water Code section 13240. The SR/SJR Basin Plan designates the beneficial uses of water to be protected along with the water quality objectives necessary to protect those uses. The SR/SJR Basin Plan specifies that the beneficial uses of any specifically identified waterbody generally apply to its tributary streams. The SR/SJR Basin Plan identifies beneficial uses for the Stanislaus River above New Melones Reservoir as: municipal and domestic supply; agricultural; power; contact recreation; noncontact recreation; warm freshwater habitat; cold freshwater habitat; and wildlife habitat. This certification for the Project must ensure compliance with the water quality standards in the SR/SJR Basin Plan.

Bay-Delta Plan

The *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) establishes water quality objectives to protect beneficial uses of water in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta) and tributary watersheds, including drinking water supply, irrigation supply, and fish and wildlife. The State Water Board adopts the Bay-Delta Plan pursuant to its authorities under the Porter-Cologne Water Quality Control Act and the federal Clean Water Act. The Bay-Delta Plan was most recently amended in 2018 (State Water Board 2018).

The State Water Board has historically developed the water quality control plan for the Bay-Delta for several reasons. The Bay-Delta is a critically important natural resource that is both the hub of California's water supply system and the most valuable estuary and wetlands system on the West Coast. As diversions of water within and upstream of the Bay-Delta are a driver of water quality in the Bay-Delta watershed, much implementation of the Bay-Delta Plan relies on the combined water quality and water right authority of the State Water Board. In addition, the Bay-Delta falls within the boundaries of two Regional Water Boards. Having the State Water Board develop and

¹ For example, the Bay-Delta Plan (State Water Board 2018).

adopt a water quality control plan that crosses Regional Water Board boundaries ensures a coordinated approach.

The beneficial uses in the Bay-Delta Plan are: municipal and domestic supply; industrial service supply; industrial process supply; agricultural supply; groundwater recharge; navigation; water contact recreation; non-contact water recreation; shellfish harvesting; commercial and sport fishing; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; estuarine habitat; wildlife habitat; and rare, threatened, or endangered species.

The Bay-Delta Plan generally is not self-implementing and does not allocate the responsibility of meeting objectives to water diverters in the Stanislaus River. Subsequent regulatory actions, such as certifications, rulemakings, or water right adjudicative proceedings are required to implement the water quality objectives.

Antidegradation Policy

The State Water Board's **Statement of Policy with Respect to Maintaining High Quality Waters in California** (Antidegradation Policy)² (State Water Board 1968) requires that the quality of existing high-quality water be maintained unless any change will be consistent with the maximum benefit to the people of the state, will not unreasonably impact present or anticipated future beneficial uses of such water, and will not result in water quality less than that prescribed in water quality control plans or policies. The Antidegradation Policy further requires best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the state will be maintained. The state Antidegradation Policy incorporates the federal Antidegradation Policy (40 C.F.R. section 131.12 (a)(1)), which requires "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."

In March 2019, the State Water Board submitted to FERC the plans and policies included in the state's comprehensive plan for orderly and coordinated control, protection, conservation, development, and utilization of the water resources of the state. This submission includes the SR/SJR Basin Plan, the Bay-Delta Plan, the Antidegradation Policy, and other applicable plans and policies for water quality control (FERC 2019).

4.3 Clean Water Act Section 303(d) Listing

USEPA approved the 2020-2022 303(d) list on May 27, 2022. Section 303(d) of the Clean Water Act requires total maximum daily loads (TMDLs) to be developed for impaired waterbodies. TMDLs are control programs that define the maximum amount of a pollutant that a waterbody can receive without exceeding water quality standards

² State Water Board Resolution No. 68-16. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf. Accessed on June 22, 2022.

and establish waste load allocations and load allocations for point and nonpoint sources of pollution, respectively. The 2020-2022 303(d) list does not include any impairments for the SFSR, MTC, or Lyons Reservoir.

4.4 Construction General Permit

For activities not explicitly covered by the conditions of this certification, PG&E will need to obtain coverage under the State Water Board's ***National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities*** (Construction General Permit)³ (State Water Board 2009) for activities that disturb one or more acres of soil, or that disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. Coverage is required pursuant to Clean Water Action sections 301 and 402, which prohibit certain discharges of stormwater containing pollutants except in compliance with a NPDES permit. (33 U.S.C. §§ 1311, 1342(p); 40 C.F.R. pts. 122, 123, and 124.)

4.5 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

The ***State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*** (Dredge or Fill Procedures)⁴ (State Water Board 2019) provide California's definition of wetland, wetland delineation procedures, and procedures for submitting applications for activities that could result in discharges of dredged or fill material to waters of the state. The Dredge or Fill Procedures ensure that State Water Board regulatory activities will result in no net loss of wetland quantity, quality, or permanence, compliant with the *California Wetlands Conservation Policy*, Executive Order W-59-93. PG&E must comply with the Procedures when conducting dredge or fill activities that may impact waters of the state, including wetlands.

4.6 Aquatic Weed Control General Permit

The ***Statewide National Pollutant Discharge Elimination System Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae***

³ Water Quality Order No. 2009-0009-DWQ and NPDES No. CAS000002, as amended by Order No. 2010-0014-DWQ, Order No. 2012-0006-DWQ, and any amendments thereto. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html. Accessed on June 1, 2022.

⁴ The Dredge or Fill Procedures are available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/rs2021_0012.pdf. Accessed on June 2, 2022.

and Aquatic Weed Control Applications (Aquatic Weed Control General Permit)⁵ (State Water Board 2013) applies to projects that require aquatic weed management activities. The Aquatic Weed Control General Permit sets forth detailed management practices to protect water quality from pesticide and herbicide use associated with aquatic weed control.

4.7 California Environmental Quality Act

The State Water Board is the lead agency for the Project for the purpose of compliance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) and CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.). As the lead agency, the State Water Board is releasing a draft initial study (IS) and draft negative declaration (ND) (State Water Board 2022B) concurrently with this draft certification. The draft IS/ND did not identify any significant impacts for the Project.

5.0 Rationale for Water Quality Certification Conditions

This section of the certification explains that the grant of certification as conditioned is within the scope of certification and why the conditions in Section 7.0 are necessary to ensure the Project and its discharges will comply with water quality requirements. This section also includes, as necessary, citations to federal, state, or tribal laws that authorize the conditions and sets forth citations to applicable regulatory authority. Section 4 also sets forth citations to applicable regulatory authority. The explanation and citations should be evaluated in the context of the certification as a whole, but the certification conditions are set forth only in Section 7.0.

As explained in this section, the conditions in the certification are generally required pursuant to the SR/SJR Basin Plan, as described in the “Regulatory Authority” section, above. The SR/SJR Basin Plan is adopted and periodically revised pursuant to Water Code section 13240.

The Dredge or Fill Procedures, adopted pursuant to Water Code sections 13140 and 13170, authorize approval of dredge or fill projects subject to satisfaction of specified requirements. California Code of Regulations, title 23, sections 3830 et seq. set forth state regulations pertaining to certifications. In particular, section 3856 sets forth information that must be included in certification requests, and section 3860 sets forth standard conditions that shall be included in all certification actions.

Water Code sections 13267 and 13383 authorize the Regional Water Boards and State Water Board (collectively Water Boards) to establish monitoring and reporting requirements for persons discharging or proposing to discharge to navigable waters, or

⁵ Water Quality Order No. 2013-0002-DWQ and NPDES No. CAG990005, as amended by Order No. 2014-0078-DWQ, Order No. 2015-0029-DWQ, Order No. 2016-0073-EXEC, and any amendments thereto. Available at: https://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/weed_control.html. Accessed on June 1, 2022.

to discharge waste thereto. Water Code section 13165 authorizes the State Water Board to impose reasonable investigation and reporting requirements regarding water quality control factors on state or local agencies. Water Code section 1051 additionally authorizes the State Water Board to investigate waters diverted for beneficial use. Moreover, this certification ensures continued monitoring, reporting, and assessment of water quality for discharges that may impact waters of the state, including waters listed as impaired under Clean Water Act section 303(d).

The conditions in this certification were developed to ensure compliance with water quality standards and water quality requirements established under the Porter-Cologne Water Quality Control Act, the federal Clean Water Act, including requirements in the SR/SJR Basin Plan, and other appropriate requirements of state law. The conditions in Section 5.0 of this certification are necessary to protect the beneficial uses of water of the state identified in the water quality control plan, prevent degradation of water quality, and help ensure compliance with state and federal water quality requirements.

Fish and Game Code section 5937 requires any owner of a dam to allow sufficient water to pass over, around, or through the dam to keep in good condition any fish that may be planted or exist downstream. Section 5937 and requirements to maintain or monitor flow or other water quality characteristics are required to meet section 5937 are appropriate conditions of state law necessary to protect fishery beneficial uses.

In general, the code citations, plans, and policies that support issuance of this certification that are described in Section 4 are not duplicated in this section. The conditions in this certification were developed to ensure compliance with water quality standards and water quality requirements established under the Porter-Cologne Water Quality Control Act and the federal Clean Water Act, including requirements in applicable water quality control plans, and other appropriate requirements of state law. The conditions in Section 7.0 of this certification are necessary to protect the beneficial uses of waters of the state identified in water quality control plans, prevent degradation of water quality, and help ensure compliance with state and federal water quality requirements.

Future updates to the Bay-Delta Plan may be approved by the State Water Board to include specific provisions for voluntary agreements as a means of implementing the water quality objectives for the protection of fish and wildlife beneficial uses. The State Water Board may amend this certification to accommodate an approved voluntary agreement to implement the Bay-Delta Plan or other voluntary solutions.

When preparing the conditions in this certification, State Water Board staff reviewed and considered the following information:

- PG&E's application for certification (PG&E, 2021B);
- PG&E's FLA and amendments thereto (PG&E, 2020A), (PG&E, 2020C), (PG&E, 2021A);
- Recommended and preliminary license terms and conditions submitted by state and federal agencies and non-governmental organizations pursuant to Federal Power Act sections 4, 10(a) and 10(j):

- California Department of Fish and Wildlife (CDFW) August 31, 2021, *Preliminary Recommendations for Fish and Wildlife Protection, Mitigation, and Enhancement Provided Under the Federal Power Act §10(j), §10(a), and 18 CFR § 4.34 (b)(2)* (CDFW, 2021);
- United States Forest Service August 23, 2021, *Preliminary Terms and Conditions, Provided Under Section 4(e) and Recommendations Provided Under Section 10(a) of the Federal Power Act* (Forest Service 2021);
- State Water Board staff August 27, 2021, certification preliminary terms and conditions (State Water Board, 2021)⁶;
- TUD August 31, 2020, *Comments and Recommendations on PG&E's Application for New License*. (TUD, 2021).
- United States Bureau of Land Management August 16, 2021, *Preliminary 4(e) Terms and Conditions* (BLM, 2021); and
- United States Fish and Wildlife Service August 16, 2021 *Section 10(a) Recommendations, and Preliminary Section 10(j) Recommended Conditions* (USFWS 2021);
- State Water Board June 2022 draft IS/ND (State Water Board, 2022);
- Comments and responses associated with the aforementioned documents;
- Existing and potential beneficial uses, associated water quality objectives, and implementation measures and programs described in the SR/SJR Basin Plan (Central Valley Regional Water Board 2018) and the Bay-Delta Plan (State Water Board 2018);
- Project related controllable water quality factors; and
- Other information in the record.

The Project application and other materials assessed in development of this certification, as well as the history of Project operations, demonstrate that the Project can operate to meet water quality standards and other appropriate requirements of state law if it complies with the conditions of this certification. The certification conditions provide a comprehensive framework to assess and address potential negative impacts to water quality and beneficial uses, and provide for continued compliance over changing conditions throughout the term of the new FERC license for the Project.

To the extent FERC considers any certification condition to include requirements outside the substantive scope of USEPA's Clean Water Act Section 401 Certification Rule, 85 Fed. Reg. 42,210 (July 13, 2020) (Certification Rule), the Certification Rule—including but not limited to 40 C.F.R. §§ 121.1(f) and (n), 121.3, 121.7(d)(1), and 121.9(b)—is inconsistent with federal law and controlling case law. Under section 401 of the Clean Water Act, when an activity requiring a federal permit or license “may result in any discharge into the navigable waters,” the applicant is required to obtain a certification that states the discharge will comply with applicable water quality standards and that also sets forth any “limitations” and “monitoring requirements” necessary to assure that the “applicant” will comply with water quality standards and “any other appropriate requirement of State law.” (33 U.S.C. § 1341(a) & (d).) Certification is

⁶ Filed in accordance with the memorandum of understanding executed between FERC and the State Water Board on November 19, 2013.

required for such activity as a whole, not merely for its point-source discharges to waters of the United States. (PUD No. 1, supra, 511 U.S. at pp. 711-712.) USEPA has indicated its intent to revise the Certification Rule because, among other faults, it “may prevent state and tribal authorities from adequately protecting their water quality,” “may result in a state or tribe’s certification or conditions being permanently waived as a result of non-substantive and easily fixed procedural concerns,” and “may limit the flexibility of certifications and permits to adapt to changing circumstances.” (86 Fed. Reg. 29,543-29,544 (June 2, 2021).) USEPA has maintained its “substantial concerns” and has asked that the Certification Rule be voluntarily remanded in ongoing litigation. As explained in this certification, each certification condition is authorized by applicable state and federal law and is necessary to ensure compliance with such laws. This paragraph is hereby incorporated as part of the explanatory statement for each condition of this certification.

5.1 Rationale for Condition 1: Water Year Types

The Project discharges water into the SFSR downstream of Lyons Reservoir and to the MTC which carries water to the Phoenix Powerhouse and eventually discharges into Powerhouse Creek which eventually flows into Phoenix Reservoir. Project discharges are the predominant flows of the SFSR directly downstream of Lyons Reservoir and have the potential to impact water quality and associated beneficial uses of the SFSR as identified in the SR/SJR Basin Plan. Water year type determinations are necessary to ensure compliance with minimum instream flows and other requirements, such as ramping rates, in the certification. Potential impacted beneficial uses of the SFSR include, but are not limited to: municipal and domestic supply; agricultural; power; contact recreation; non-contact recreation; warm freshwater habitat; cold freshwater habitat; and wildlife habitat. Defining water year types is necessary to ensure protection of water quality and beneficial uses because water year type determinations are used to establish the timing and amounts of required flows. Water year types are needed to ensure the protection of beneficial uses consistent with water quality control plans and other applicable requirements and are used to ensure monitoring and compliance with conditions in keeping with Clean Water Act section 401, Water Code section 13383, and other applicable laws. Maintaining adequate minimum instream flows, in part, through implementation of water type determinations ensures protection of water quality, and enables evaluation of compliance with applicable requirements consistent with Clean Water Action section 401.

Condition 1 requires PG&E to implement the proposed water year types submitted in its Second Supplemental to the FLA (PG&E, 2021B). These water year types follow the California Department of Water Resources’ (DWR) Bulletin 120 for unimpaired flow into New Melones Reservoir. The water year types are divided into five categories: critically dry, dry, normal-dry, normal-wet, and wet. These classifications will simplify the determination of water year types to establish consistency across all applicable conditions including Condition 2 (Instream Flows), Condition 3 (Ramping Rates), Condition 4 (Water Quality Monitoring), and help manage Project discharges to ensure compliance with state and federal water quality requirements.

5.2 Rationale for Condition 2: Instream Flows

Minimum instream flows directly protect water quality to support beneficial uses, provide for improved ecosystem function that protects water quality and beneficial uses, and provide habitat for fish and wildlife. Beneficial uses that rely on minimum instream flows for protection include wildlife habitat, warm freshwater habitat, cold freshwater habitat, non-contact recreation, and contact recreation. Fish and Game Code section 5937, requires any owner of a dam to allow sufficient water to pass over, around or through the dam to keep in good condition any fish that may be planted or exist downstream. Ensuring instream flows do not greatly differ from naturally unimpaired instream flows provides protection of biodiversity, recreation, and water quality.

PG&E has developed an Instream Flows Plan in collaboration with the Resource Agencies⁷ to operate the Project in a way that supports the natural function of the SFSR. Condition 2 requires PG&E to implement the Instream Flows Plan to avoid unreasonable impacts to water quality and beneficial uses.

5.3 Rationale for Condition 3: Ramping Rates

Sudden instream flow changes can adversely impact water quality and aquatic organisms. Project operations can cause abrupt instream flow and stage fluctuations in stream reaches that may strand, wash out, or otherwise impact aquatic species. Rapid changes in instream flow can increase levels of turbidity and change water temperature that may result in adverse or lethal effects to species. Additionally, abrupt instream flow and stage changes can create dangerous and even lethal conditions for the public.

Condition 3 requires PG&E to implement ramping rates for discharges into the SFSR reach and develop a plan for end-of-spill ramping rates. Implementation of this condition will help avoid unreasonable impacts to water quality and beneficial uses associated with sudden changes in flow related to Project operations. Potentially impacted beneficial uses include: wildlife habitat, warm freshwater habitat, cold freshwater habitat, non-contact recreation and contact recreation.

5.4 Rationale for Condition 4: Water Quality Monitoring and Adaptive Management

Project activities, such as operations and maintenance and reservoir maintenance and management, through their associated discharges and stream system modifications, have the potential to violate the SR/SJR Basin Plan's water quality objectives. Major alterations of stream systems can significantly affect biological and chemical processes in the water affecting a host of water quality parameters, including those related to temperature, nutrients, pH, sediments, metals, micro-organisms, and toxins. Changes to water temperatures can adversely impact species occurring in or downstream of the Project area which may lead to impairment or lethality. Rapid increases to water

⁷ "Resource Agencies" is comprised of the United States Forest Service, United States Fish and Wildlife Service, State Water Board, and California Department of Fish and Wildlife.

temperature can reduce dissolved oxygen levels to critically low levels. Further, changes in temperature may lead to unreasonable impacts to beneficial uses.

Water quality monitoring and reporting conditions are required to help ensure beneficial uses are protected, and to comply with SR/SJR Basin Plan water quality objectives and other appropriate requirements of state law. These monitoring requirements are consistent with the Water Boards' authority to investigate the waters of the state, including for quality, and to require necessary monitoring and reporting pursuant to Water Code sections 1051, 13165, 13267, and 13383.

This condition requires PG&E to implement a water quality monitoring plan to protect water quality, prevent impacts to beneficial uses, and identify the need for changes to Project-related activities to avoid water quality impacts. Water temperature data will identify if Project operations or facilities, including maintaining and operating reservoirs, operating outlets, and controlled flows, are impacting water temperature in a manner that may impact biota.

Implementation of Condition 4 will help avoid or limit unreasonable impacts to water quality and beneficial uses associated with water temperature and other water quality parameters. Beneficial uses that would be protected by implementing Condition 4 include: municipal and domestic supply, contact recreation, noncontact recreation, warm freshwater habitat, and cold freshwater habitat.

5.5 Rationale for Condition 5: Biological Resources

Project activities, such as operations and maintenance and reservoir management, and their associated discharges and stream system modifications, have the potential to cause violations of the SR/SJR Basin Plan's water quality objectives as well as negatively impact habitats and species that may occur in the Project area and downstream. Alterations of stream systems can affect biological and chemical processes in the water affecting a host of water quality parameters, including those related to temperature, nutrients, pH, sediments, metals, micro-organisms, and toxins. Monitoring and reporting for water temperature (required by Condition 4), fish, and amphibians are needed to help ensure beneficial uses are protected and to comply with SR/SJR Basin Plan water quality objectives and other appropriate requirements of state law.

Condition 5 requires PG&E to implement monitoring activities for fish, foothill yellow-legged frog (FYLF), and associated water temperature monitoring, identified in the Aquatic Resources Plan submitted to FERC on February 26, 2021. In years in which monitoring occurs, PG&E is required to use the annual consultation meetings (Condition 11) to bring the relicensing participants and interested parties together to discuss monitoring results and resource trends, and develop adaptive management actions to protect water quality, special-status species, and beneficial uses, as needed. Monitoring required by Condition 5 will assist the Resource Agencies and other interested agencies in evaluating impacts, including to water quality, associated with the implementation of new FERC Project license conditions on hydrologic, biologic, and geomorphologic resources in and downstream of the Project area.

Terrestrial and aquatic invasive species have the potential to cause adverse impacts to water quality and native species in Project-affected areas. Invasive species can compete against native species for limited resources. Invasive species have the potential to be introduced via Project-related flow releases, Project operations and maintenance, Project alterations to habitat, and recreation activities. Aquatic invasive species can result in violations of water quality objectives and impact beneficial uses. Implementation of Condition 5 will minimize and prevent the introduction, establishment, and spread of invasive species into and throughout the Project area and will help avoid unreasonable impacts to water quality and beneficial uses.

Project construction activities have the potential to interfere with native aquatic and terrestrial species that depend heavily on aquatic food or live in riparian or wetland habitats and to adversely impact habitat use. These adverse impacts have the potential to reduce the reproductive output of individuals, special-status species, and their long-term occupancy of areas in and adjacent to the Project.

Condition 5 requires PG&E to prepare and submit a biological evaluation before taking any actions to construct new Project features on Forest Service or United States Bureau of Land Management (BLM) lands, including: evaluation of the potential impact of the action on sensitive species or their habitat, identification and implementation of minimization and avoidance procedures, and monitoring.

The Clean Water Act prohibits a point source discharge of pollutants into waters of the United States, unless authorized by a NPDES or other appropriate permit. Condition 5 ensures waters of the United States will be protected from discharges by requiring PG&E to obtain a NPDES permit for applicable activities that may adversely affect water quality.

Implementation of Condition 5 will avoid unreasonable impacts to water quality and beneficial uses including: warm freshwater habitat, cold freshwater habitat, and wildlife habitat.

5.6 Rationale for Condition 6: Erosion and Sediment Control

Erosion and sedimentation can contribute to significant degradation of the waters of the state; therefore, it is necessary to implement actions to limit or eliminate such discharges in order to protect water quality and associated beneficial uses. Project activities, including but not limited to the use of Project roads and improvements and rehabilitation of the existing recreation developments, have the potential to result in increased erosion that discharges sediment and other materials into waters of the state in the Project area. Increases in erosion and sedimentation can exceed water quality objectives and impact beneficial uses. Condition 6 requires PG&E to implement its Erosion Plan⁸. The Erosion Plan includes erosion and sedimentation control measures, best management practices, and emergency measures to prevent water quality objective exceedances and unreasonable impacts to beneficial uses.

⁸ PG&E submitted the Project's Erosion Plan to FERC on February 26, 2021.

PG&E's Project Related Erosion Study (GEO2 study) (PG&E, 2020B) identified the extent of erosion on spill channels along the MTC. There are 10 spill channels along the 15.2-mile stretch of the MTC from Lyons Dam to the Phoenix Header Box. The spill channels are predominately comprised of silt and clay substrate with some portions of bedrock and boulders. The spill channels flow either into the SFSR directly, Five Mile Creek which terminates into the SFSR, or Sullivan Creek which eventually reaches the Tuolumne River. Project operations, including the passage of water through the MTC and its spillways, have the potential to result in increased erosion and discharge sediment and other materials into waters of the state in and downstream of the Project area. Condition 6 requires PG&E to develop and implement a Spill Channel Erosion Plan to determine whether spill operations in the MTC are causing accelerated erosion in the spill channels, and identify any adverse effects to water quality or impacts to resources associated with receiving waters. If it is determined that adverse effects are occurring, PG&E shall develop and implement actions to address such impacts, as appropriate.

Operation and maintenance of Project roads and trails have the potential to impact water quality. The potential for water quality impacts depends on factors such as local topography, roadbed material, and drainage characteristics. To avoid and minimize these potential water quality impacts, Condition 6 requires PG&E to implement its Project Roads and Trails Plan⁹. Implementation of Condition 6 will help ensure operation and maintenance of the Project's roads and trails do not cause discharges to surface waters that violate water quality standards or impact beneficial uses.

Existing Project recreation facilities require updates, reconstruction, or improvements to meet current and future visitor needs. Modifications to the existing facilities include additional parking and compliance with accessibility guidelines. Erosion and runoff from Project construction and maintenance activities has the potential to result in discharges that violate water quality standards. Condition 6 requires PG&E to comply with the Construction General Permit, as applicable, and to develop and implement Water Quality Monitoring and Protection Plans (WQMP Plans) to protect water quality and beneficial uses, as applicable. WQMP Plans will be developed for construction and maintenance activities with the potential to cause erosion, stream sedimentation, release of hazardous materials, or otherwise impair water quality that are not otherwise covered by other provisions of the certification.

Implementation of Condition 6 will prevent unreasonable impacts to beneficial uses including: municipal and domestic supply, non-contact recreation, contact recreation, warm freshwater habitat, cold freshwater habitat, and wildlife habitat.

5.7 Rationale for Condition 7: Streamflow and Reservoir Gaging

Compliance with certification Conditions 2, 3, 4, and 5, which relate to management of Project discharges, requires accurate and reliable gaging. PG&E, in consultation with the Resource Agencies, has developed the Streamflow and Reservoir Level Gaging

⁹ PG&E submitted the Project's Roads and Trails Plan to FERC on February 26, 2021.

Plan¹⁰. The Streamflow and Reservoir Level Gaging Plan provides details regarding the location, operation, required maintenance activities, and data collection and reporting protocol for each gage used to document certification compliance. Condition 7 requires PG&E to implement its Streamflow and Reservoir Level Gaging Plan.

5.8 Rationale for Condition 8: Hazardous Materials

Site management requires implementation of best management practices to prevent, minimize, and clean up potential spills associated with ongoing operation, maintenance, and construction during the term of the new FERC license. For instance, fuels and lubricants associated with the use of motorized equipment have the potential to result in toxic discharges to waters of the state and exceed water quality standards, including toxicity and floating material water quality objectives. This condition is also required pursuant to Water Code section 13264, which prohibits any discharge that is not specifically authorized in this certification.

Condition 8 requires implementation of PG&E's Hazardous Materials Management Plan¹¹ to prevent hazardous material discharges into waters of the state. Implementation of this condition will avoid unreasonable impacts to water quality and beneficial uses including: wildlife habitat; warm freshwater habitat, cold freshwater habitat, and contact recreation.

5.9 Rationale for Condition 9: Fish Stocking

Angling is one of the most popular recreational activities associated with the Project, and continued stocking fish in the MTC and Lyons Reservoir will help ensure that the recreational fishery will be maintained for the term of the new FERC license. Angling, listed under contact recreation in the SR/SJR Basin Plan, is an existing beneficial use for the Stanislaus River. Due to the level of recreational angling that occurs in the MTC and Lyons Reservoir, Condition 9 requires PG&E to provide funds to CDFW for annual stocking of catchable trout in the MTC and Lyons Reservoir. Implementation of the Fish Stocking Plan¹² developed in consultation with the Resource Agencies will ensure a continuation of the recreational fishery associated with the Project. Condition 9 requires that fish stocking avoids adverse impacts to native species and water quality.

5.10 Rationale for Condition 10: Extremely Dry Conditions

California's history of drought illustrates the importance of planning for multiple dry years of drought. It is difficult to anticipate the specific impacts of consecutive dry years or a long-term drought and identify where limited water supplies may be best used during times of shortage during the extended term of a FERC license. State Water Board Resolution No. 2017-0012, resolves that the state shall update plans, permits,

¹⁰ PG&E submitted the Project's Streamflow and Reservoir Level Gaging Plan to FERC on February 26, 2021.

¹¹ PG&E submitted the Project's Hazardous Materials Management Plan to FERC on February 26, 2021.

¹² PG&E submitted the Project's Fish Stocking Plan to FERC on August 24, 2020.

and policies to improve “ecosystem resilience to the impacts of climate change, including but not limited to actions that protect headwaters, facilitate restoration, enhance carbon sequestration, build and enhance healthy soils, and reduce vulnerability to and impacts from fires. Drought conditions combined with Project activities may adversely impact water quality through decreased instream flow and lower reservoir levels which can result in increased water temperatures, decreased dissolved oxygen levels, algal blooms, and increased amounts of aquatic invasive species. Drought conditions can cause normal Project operations and discharges to exceed water quality objectives and adversely impact beneficial uses. Condition 10 provides PG&E with the ability to request modifications to certification terms, thereby providing flexibility for adaptive management of impacts from the discharge during times of extreme water shortage.

Implementation of this condition will avoid unreasonable impacts to water quality and beneficial uses, including: municipal and domestic supply, agricultural supply, hydropower generation, wildlife habitat, warm freshwater habitat, cold freshwater habitat, contact recreation, and noncontact recreation.

5.11 Rationale for Condition 11: Annual Consultation

Monitoring and management plans required by this certification will assist the Resource Agencies and other interested agencies in evaluating impacts, in particular impacts to water quality and beneficial uses, associated with the implementation of the Project throughout the term of the new FERC license. Annual consultation meetings bring the relicensing participants and interested parties together to discuss monitoring results and resource trends, and develop adaptive management actions to protect water quality and beneficial uses, as needed. Condition 11 requires PG&E to assemble a Technical Review Group at an Annual Consultation Meeting to review and discuss PG&E’s efforts completed in the previous year and those planned for the coming year to inform the ongoing protection of water quality and beneficial uses from both overall Project operations as well as both expected and unexpected operations and maintenance activities that may occur in any year during the term of a new license.

5.12 Rationale for Condition 12 through Condition 33

In order to ensure that the Project operates to meet water quality standards as anticipated, to ensure compliance with other relevant state and federal laws, and to ensure that the Project will continue to meet state water quality standards and other appropriate requirements of state law over its lifetime, this certification imposes conditions regarding monitoring, enforcement, and potential future revisions. Additionally, California Code of Regulations, title 23, section 3860 requires imposition of certain mandatory conditions for all water quality certifications, which are included in the following conditions.

Condition 12 is necessary to comply with Water Code section 13167 and Conditions 13 through 16 contain important clarifications concerning the scope and legal effect of this certification, and other legal requirements that may apply to the Project to ensure the protection of water quality throughout the term of a new Project license.

Monitoring, reporting, and assessment actions, and the information developed through such actions, must be readable, shared, and coordinated with other appropriate entities, and accessible to ensure that a discharge activity complies with water quality requirements. Water Code section 13167 requires the Water Boards to ensure that monitoring data and assessment information are available in a single location and that the information is presented in a manner easily understandable by the public. To fulfill this legislative mandate, Condition 12 requires electronic data submittal in a compatible format with existing system specifications. Compliance with this condition enhances the accessibility of data and transparency of regulatory actions. This allows regulatory agencies and the public to better assess compliance and understand water quality trends or data anomalies by compiling data and making it readily available.

Pursuant to the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and federal Endangered Species Act (16 U.S.C. § 1531 et seq.), the certification does not authorize any act which results in the taking of a threatened, endangered, or candidate species. An applicant for certification is required to identify other licenses, permits, and agreements in the application. In the event an applicant for certification needs authorization from the state or federal authorities, California Code of Regulations, title 23, section 3856, subdivision (e), requires that the applicant provide copies of “any final and signed federal, state, and local licenses, permits, and agreements (or copies of the draft documents, if not finalized) that will be required for any construction, operation, maintenance, or other actions associated with the activity. If no final or draft document is available, a list of all remaining agency regulatory approvals being sought shall be included.” To help ensure the integrity of the certification process and its focus on the activity resulting in discharge, Condition 13 serves to notify applicants that there may be additional applicable federal, state, or local laws or ordinances with which they must comply, including the state and federal Endangered Species Acts. Water Code section 13160, subdivision (b)(1) allows the State Water Board to issue a certification when there is “reasonable assurance that an activity of any person subject to the jurisdiction of the state board will comply with applicable requirements” of state and federal law. Also, as noted in the rationale for Condition 13 above, to help ensure the integrity of the certification process and its focus on the activity resulting in discharge, Condition 14 serves to notify applicants that there may be additional applicable federal, state, or local laws or ordinances with which they must comply. Because agency organization and authorities change over time, Condition 15 provides direction for continuity of oversight in the event an agency’s authority or responsibility is transferred to or subsumed by another agency.

The State Water Board is responsible for the water right, water quality, and drinking water functions of the California state government. (Wat. Code, § 174.) Certain certifications, including this one, involve an appropriation of water subject to part 2 of division 2 of the Water Code or the diversion of water for certain beneficial uses under the State Water Board’s authorities over water rights. (See, e.g., Cal. Code Regs., tit. 23, § 3855, subd. (b)(1)(A).) Condition 16 clarifies that the State Water Board is not adjudicating or approving the validity of water rights involved with the Project subject to certification. It also recognizes the State Water Board’s authority, independent of its certification authority, to prevent unauthorized or threatened unauthorized diversions of water. This helps to ensure that an applicant for a federal license or permit that involves

a discharge to navigable waters understands that, except as specified in the certification, the certification does not constitute, or excuse the applicant from obtaining any other State Water Board approvals required for the activity.

Conditions 17 through 19 are necessary to assure that any discharge authorized under the general license or permit will comply with water quality requirements. Water quality requirements include state regulatory requirements for point source discharges into waters of the United States. California Code of Regulations, title 23, division 3, chapter 28 sets forth regulations pertaining to certifications for point source discharges to waters of the United States. These conditions were included to comply with section 3860, which sets forth conditions that must be included in all certifications.

Condition 17 is a standard condition that “shall be included as [a condition] of all certification actions” pursuant to California Code of Regulations, title 23, section 3860, subdivision (a). This condition places the applicant on notice that the certification action may be modified or revoked following administrative or judicial review.

Condition 18 is another standard condition that “shall be included as [a condition] of all water quality certification actions” pursuant to California Code of Regulations, title 23, section 3860, subdivision (b). This condition clarifies the scope of the certification’s application and ensures that any applicant for a federal license or permit, which may result in a discharge into navigable waters, is subject to the appropriate State certification. The application here meets the requirements for applicability to a hydroelectric facility.

Condition 19 is also a standard condition that “shall be included as [a condition] of all water quality certification actions” per California Code of Regulations, title 23, section 3860, subdivision (c)). This fee requirement condition is also required pursuant to California Code of Regulations, title 23, section 3833, subdivision (b), which requires payment of fees by project proponents applying for certification. Fees are essential to support the Water Boards’ certification program, which includes the development of certifications and related inspections to ensure the protection of water quality and beneficial uses that may be impacted by a project’s discharge.

Conditions 20 through 30 are necessary to ensure that the Project operates to meet water quality standards and other appropriate requirements of state law, or that adjustments are made to ensure continued compliance with water quality standards in light of new information, changes to the Project, determination of invalidity or waiver, or changes to the standards themselves.

This certification requires monitoring, reporting, and analysis as important elements to ensure that the Project, including operations and maintenance activities that could impact the quality of water discharged by the Project or the quality of the receiving waters, will comply with state and federal water quality requirements and other appropriate requirements of state law. These requirements include, for example, Water Code sections 13267 and 13383, which authorize the Water Boards to establish monitoring and reporting requirements for persons discharging or proposing to discharge to the waters of the state, including discharges of waste. Condition 20 sets

reporting requirements that are essential to ensuring that the Project will comply with water quality requirements. Conditions 21, 22, 23, and 24 ensure compliance and prevent violations of water quality standards over the long period of Project operations, including accounting for changes in technology, water quality requirements, and the Project itself. In the event of non-compliance, modified conditions may be necessary to return the discharger to compliance and prevent violation of water quality standards. Additionally, Conditions 23 and 24 require PG&E to take reasonable measures to protect water quality and beneficial uses, in accordance with plans adopted pursuant to state and federal water laws. Condition 25 provides notice of the State's rights to impose appropriate remedies, penalties, process, or sanctions as allowed by State law in order to protect water quality. Condition 26 requires reports that are necessary to ensure compliance with water quality standards. Water Code sections 1051, 13165, 13267, and 13383 authorize the Water Boards to establish monitoring and reporting requirements for persons discharging or proposing to discharge to the waters of the state, including discharges of waste.

Condition 27, related to site access requirements, is authorized pursuant to the Water Boards' authority to investigate the quality of the waters of the state, including specific site access authorization under Water Code sections 13267 and 13383. Site access is needed to ensure compliance with the certification and associated protection of water quality and beneficial uses. Condition 28 requires site personnel and agencies to be familiar with the content of the certification and availability of the document at the Project site. This condition is required to ensure that site personnel are familiar with the conditions needed to protect water quality and any authorized discharge will comply with the terms and conditions of this certification, which requires compliance with water quality objectives and beneficial uses adopted or approved under sections 13170 or 13245 of the Water Code, and with other appropriate requirements of state law.

Condition 29 provides for changing conditions related to climate change during the term of the new FERC license in order to protect water quality and beneficial uses by providing for appropriate adjustments to protect water quality and beneficial uses during the term of the new license. State Water Board Resolution No. 2017-0012, resolves that the state shall update plans, permits, and policies to improve "ecosystem resilience to the impacts of climate change, including but not limited to actions that protect headwaters, facilitate restoration, enhance carbon sequestration, build and enhance healthy soils, and reduce vulnerability to and impacts from fires."

Condition 30 provides clarification that the provisions allowing for addition or modification of the terms of this condition shall include notice and opportunity to be heard.

Condition 31 provides protection to wetlands, in conformance with State wetland protection requirements. California has had especially profound historical losses of wetlands. Avoidance, restoration, or replacement of impacted wetlands and riparian areas, and other actions in conformance with the Dredge or Fill Procedures and the California Wetlands Conservation Policy (Governor's Executive Order W-59-93 (Aug. 23, 2993), and any amendments thereto, provides adequate protection for the water

decontamination and nutrient recycling functions of wetlands and riparian areas, as well as the habitat functions.

Condition 32 requires that the laboratory methods used to assess compliance with the certification meet approved methods and are conducted by certified laboratories, to the extent possible, in order to ensure quality assurance.

In the event that any provision of this certification is found invalid, Condition 33 ensures that all other provisions will remain effective and water quality will still be protected. (Wat. Code, § 13160.)

6.0 Conclusion

The State Water Board finds that, with the conditions and limitations imposed by this certification, the Project will be protective of the state water quality standards and other appropriate requirements of state law.

7.0 Water Quality Certification Conditions

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER RESOURCES CONTROL BOARD CERTIFIES THAT OPERATION OF THE PHOENIX HYDROELECTRIC PROJECT (Project) will comply with sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of state law, under the following terms and conditions.

CONDITION 1 Water Year Types

The Licensee shall use the California Department of Water Resources (DWR) water year forecast of unimpaired inflow into New Melones Reservoir as set forth in DWR’s Bulletin 120¹³ to determine the applicable water year type as described in Table 1 below. The water years are classified into five water year types based on inflow to New Melones Reservoir: Wet, Normal-Wet, Normal-Dry, Dry, and Critically Dry.

Table 1. Criteria for Annual Determination of Water Year Type

Water Year Type	DWR Forecast Annual Unimpaired Inflow into New Melones Reservoir (in acre feet)
Critically Dry	Less than or equal to 350,000
Dry	Greater than 350,000 and less than or equal to 676,000
Normal-Dry	Greater than 676,000 and less than 1,050,000
Normal-Wet	Greater than or equal to 1,050,000 and less than 1,585,000
Wet	Greater than or equal to 1,585,000

The Licensee shall use DWR’s Bulletin 120 forecast released on or around February 10 to determine the water year type and operate according to that water year type until the next forecast is available. For any given year, the water year shall be adjusted in accordance with updates of DWR’s Bulletin 120, which generally occur at three points in time subsequent to the initial February designation, in March, April, and May. DWR’s final Bulletin 120 update of the year, usually in May, shall determine the final water year type designation until the following February Bulletin 120 forecast is released. Use of Bulletin 120 water year types track variable snowpack and spring runoff conditions in the watershed to inform adjustments to the water year. The Licensee shall update Project operations within two business days of release of DWR’s Bulletin 120 forecast, or as soon as possible thereafter for manually operated flow controls (e.g., manually operated radial gates, flashboards).

¹³ Bulletin 120 is a publication that is usually issued by DWR four times a year, in the second week of February, March, April, and May. It contains forecasts of the volume of seasonal runoff from California’s major watersheds, and summaries of precipitation, snowpack, reservoir storage, and runoff in various regions of California.

CONDITION 2 Instream Flows

CONDITION 2(A) Minimum Instream Flows

As soon as reasonably practicable, and no later than one month following Federal Energy Regulatory Commission (FERC) license issuance, the Licensee shall provide instream flow releases as specified in Table 2 and measured at the following location:

- South Fork Stanislaus River below Lyons Dam at United States Geological Survey (USGS) gage 11298000 (Pacific Gas & Electric [PG&E] Gage S-51)¹⁴

Table 2. South Fork Stanislaus River Minimum Instream Flows (in cubic feet per second [cfs]), by Water Year Type, with compliance measured at PG&E Gage S-51 (USGS gage 11298000)^a

Month	Water Year Type ^b				
	Critically Dry	Dry	Normal-Dry	Normal-Wet	Wet
October	5	5	6	8	8
November	5	5	8/13 ^c	10/15 ^c	10/15 ^c
December	5	5	8/13 ^c	10/15 ^c	10/15 ^c
January	5	5	8/13 ^c	10/15 ^c	10/15 ^c
February	5	5	10	10	10
March	5	7	10	10	10
April	5	7	10	10	10
May	5	10/5 ^d	10/5 ^d	10	10
June	5	10/5 ^d	10/5 ^d	10	10
July	5	5	5	8	8
August	5	5	5	5	5
September	5	5	5	5	5

^a Once Lyons Reservoir has reached the target minimum storage of 1,500 acre-feet, as measured at PG&E Gage S-16, the minimum instream flow is the amount indicated in Table 2 or the inflow to Lyons Reservoir, whichever is less.

^b Water Year types are defined in Condition 1.

^c In Wet, Normal-Wet, and Normal-Dry water years, the minimum flow requirement increases by 5 cfs for the last week (i.e., seven days) of November, December, and January unless an equivalent volume of water (70 acre-feet) above the required flow is

¹⁴ Gage S-51 is located on the South Fork Stanislaus River approximately 400 feet downstream of Lyons Reservoir. See Figure 2 for the gage location.

released over a minimum of three days in the first three weeks of the month, as measured at Gage S-51

- ^d In May and June of Dry and Normal-Dry years, the flow requirements revert to 5 cfs at end of spill, which is defined as Lyon Reservoir being more than six inches below the top of the flashboards, inflows to Lyons Reservoir of less than 200 cfs, and a 10-day forecast indicating that spill (i.e., unrestricted flows overtopping the flash boards) is not likely to be reinitiated.

The Licensee shall maintain the minimum instream flows described in Table 2 at all times. Due to variable conditions at the release point and Gage S-51, measured flows may occasionally fluctuate even though the minimum instream flow release is properly set. If measured flows drop below the minimum instream flow requirement, the Licensee shall investigate as soon as practicable¹⁵. Compliance flow measurements shall be taken instantaneously (i.e., at least every 15 minutes). The Licensee shall not be considered to be out of compliance with this measure if the instream flow release is properly set, instantaneous flow measurement is at least 80 percent of the minimum instream flow requirement in Table 2, and the six-hour running average equals or exceeds 90 percent of the minimum instream flow requirement. The six-hour running average shall be calculated in the event any instantaneous minimum flow measurement is below the minimum flow requirement shown in Table 2. The initial six-hour running average shall be calculated as the mean of 19 instantaneous measurements prior to and including the first flow measurement under the minimum flow requirement, and shall continue to be calculated using consecutive 19 instantaneous measurements thereafter until at least six hours have elapsed after the last instantaneous measurements out of compliance with the minimum flow requirement. If the flow temporarily falls below the applicable minimum flow requirement due to unforeseen circumstances such as debris blocking the intake or ice conditions on the measurement weir, the Licensee shall restore the required minimum flow as soon as reasonably practicable¹⁶. For deviations greater than those described above, the Licensee shall, within two business days of the deviation, notify the United States Department of Agriculture, Forest Service (Forest Service), the United States Fish and Wildlife Service (USFWS), the State Water Resources Control Board (State Water Board), and the California Department of Fish and Wildlife (CDFW) (collectively Resource Agencies), along with the Federal Energy Regulatory Commission (FERC). The duration and cause for any temporary decrease in flows below those required in Table 2 shall be documented in the annual report described in section 2(C) below.

¹⁵ If the Licensee is unable to investigate and resolve the drop in flows within 24 hours, the Licensee shall provide the Deputy Director for the Division of Water Rights with notification regarding why the Licensee is unable to access the site to investigation and when the Licensee anticipates such investigation will be conducted.

¹⁶ If the Licensee is unable to restore the minimum flows within 24 hours, the Licensee shall provide the Deputy Director for the Division of Water Rights with notification regarding why the Licensee is unable to restore the flow and when the Licensee anticipates the flow will be restored.

A water shortage is projected if Lyons Reservoir storage and projected inflow to Lyons Reservoir after the end of spill (from both natural and regulated flows) are insufficient to meet projected water demand and minimum instream flows, while also maintaining storage in Lyons Reservoir that is protective of water quality (i.e., 1,500 acre-feet). If a water shortage is projected, the Licensee shall consult with Tuolumne Utilities District (TUD) and the Resource Agencies to describe the shortage and the Licensee's proposed plan to address the identified water shortage. After consultation with the Resource Agencies and TUD regarding alternatives, the Licensee may file a water shortage plan and evidence of consultation with FERC. If implementation of the water shortage plan will result in the need for a variance from any of the conditions of this certification, the Licensee shall request review and approval of any such variance from the Deputy Director for the Division of Water Rights (Deputy Director) at least 60-days prior to implementation. The Deputy Director may require modifications as part of any approval of the water shortage plan.

CONDITION 2(B) Deviations and Emergencies

If the 24-hour flow average deviates below the applicable minimum flow requirement, the Licensee shall file a report with FERC and the Resource Agencies within 30 days of the end of the incident. The report shall identify, to the extent possible, the cause, severity, and duration of the deviation; any observed or reported adverse environmental impacts resulting from it; and any corrective actions taken. The report must specify what actions the Licensee has taken or plans to implement to prevent a similar incident.

Other than as described below for emergency responses, the minimum flow requirements listed in Table 2 of this condition may be temporarily modified as required for maintenance or repair of Project facilities, with prior Deputy Director approval. The Licensee shall submit a flow release deviation request to the Deputy Director for review and consideration of approval as soon as practicable but no later than 60 days prior to the proposed flow deviation. The Deputy Director may require modifications as part of any approval. If approved, the Licensee shall notify the Resource Agencies at least five working days prior to implementing the approved flow deviation.

The Licensee shall notify FERC and the Resource Agencies as soon as practicable, and in no case later than two days after any modification of the minimum flow requirements is needed due to operational emergencies beyond the control of the Licensee or in the interest of public safety. An emergency is defined as an event that is reasonably out of the control of the Licensee and requires the Licensee to take immediate action, either unilaterally or under instruction by law enforcement or other regulatory agency staff, to prevent imminent loss of human life or substantial property damage. An emergency may include, but is not limited to, natural events such as landslides, storms or wildfires, malfunction or failure of Project works, and recreation accidents. For purposes of this condition, drought shall not be considered an emergency.

CONDITION 2(C) Reporting

Annually by November 31, the Licensee shall submit a Flow and Reservoir Level Report to the Deputy Director. The report shall cover the preceding water year (October 1 through September 30) and at a minimum, include: (1) data for each gage that monitors compliance with conditions of this certification that includes flow and reservoir elevation data of appropriate time step in electronic format; and (2) a description of any deviations from the flow requirements of this certification. For the purpose of reporting compliance with the instream flow requirement, daily mean data shall be included in the Flow and Reservoir Level Report. Instantaneous flow data in electronic format shall be provided to the Resource Agencies upon request.

CONDITION 3 Ramping Rates

CONDITION 3(A) Standard Ramping Rates

No later than one month following FERC license issuance, the Licensee shall implement the standard ramping rates specified in this condition.

The Licensee shall operate Lyons Dam such that discharges to the South Fork Stanislaus River shall not cause instream flows to decrease or increase¹⁷, at a rate (in cfs per hour) greater than 50 percent of the existing streamflow, as measured at USGS gage 11298000 (PG&E Gage S-51). The Licensee shall make a good faith effort to ramp at a slower rate (i.e., by reducing the flow change or extending the time). Standard ramping rates may be temporarily modified upon approval from the Forest Service and the Deputy Director. The Licensee shall submit requests to temporarily modify the ramping rates to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications are part of any approval.

CONDITION 3(B) Deviations and Emergencies

The ramping rates in this condition do not apply to Project operations: (1) during an emergency or equipment malfunction as defined in Condition 2(B) and below; (2) if the natural change of inflow exceeds the control of the Project; or (3) during instances where the Licensee is directed by FERC or the California Division of Safety of Dams to test or exercise valves at Project facilities.

If the ramping rate deviates from the requirements of Condition 3(A) the Licensee shall notify the Resource Agencies within 30 days of the incident. The notification shall identify, to the extent possible, the cause, severity, and duration of the deviation, any observed or reported adverse environmental impacts resulting from the deviation, any corrective actions taken, and what actions the Licensee has taken or plans to implement to prevent a similar incident.

¹⁷ The ramping rate only applies to increases in flow when Lyons Reservoir is not spilling; the ramping rates do not apply to increases and flows associated with spills from Lyons Reservoir.

Ramping rates may be temporarily modified if required by emergencies, to protect public safety, at the request of emergency response personnel, or conditions beyond the control of the Licensee. An emergency is defined in Condition 2(B). The Licensee shall notify FERC and the Resource Agencies within five business days of any emergency ramping rate deviation.

CONDITION 3(C) End of Spill Ramping Rates

No later than six months following FERC license issuance, the Licensee shall submit an End of Spill Ramping Rates Plan to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall develop and implement the End of Spill Ramping Rates Plan in consultation with the Resource Agencies. At a minimum, the End of Spill Ramping Rates Plan shall:

- Define the rates and timing of the end-of-spill (EOS) ramping over the term of the Project license. This includes:
 - Conditions when EOS ramping is required. A detailed description of when and how down-ramping would occur including dates and schedules for ramping scenarios;
 - EOS ramping rates schedule and scenarios; and
 - EOS ramping rates assessment period, if applicable, and associated process for consultation and updates.
- Outline procedures for implementation of the EOS ramping rates, including how compliance with the ramping rates will be measured and documented. The EOS ramping rates shall be implemented based on the Licensee's ability to control flows, with the EOS date determined in consultation with the Resources Agencies. Unless otherwise approved by the Deputy Director, the EOS ramping rates shall be measured based on flow changes at USGS gage 11298000 (PG&E Gage S-51) on the South Fork Stanislaus River below Lyons Dam. Procedures shall include operation and maintenance schedules for gates and measuring equipment.
- Evaluate and describe effects of the ramping rates to stream flow and stage downstream of Lyons Dam, which includes a review of ramping rate implementation and reporting.
- Evaluate the need for and process to modify EOS ramping rates, schedules, or other elements of the plan to address any changes in water supply needs, protection of aquatic resources, and/or other beneficial uses over the term of the Project license, which includes:
 - Process for addressing potential deviations and emergencies; and
 - Procedures to update the End of Spill Ramping Rates Plan.

The Licensee shall file the Deputy Director-approved End of Spill Ramping Rates Plan, together with any required plan modifications, with FERC. The Licensee shall implement the End of Spill Ramping Rates Plan upon Deputy Director and any other required approvals. Any changes to the End of Spill Ramping Rates Plan shall be approved by the Deputy Director prior to implementation.

CONDITION 4 Water Quality Monitoring and Adaptive Management

No later than six months following FERC license issuance, the Licensee shall submit a Water Quality Monitoring Plan to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The purpose of the Water Quality Monitoring Plan shall be to monitor and evaluate water quality related to Project operation and maintenance, and provide for adaptive management to ensure the protection of water quality and beneficial uses that may be impacted by the Project. The Water Quality Monitoring Plan shall be developed in consultation with the Forest Service, USFWS, CDFW, and Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) and State Water Board staff. At a minimum, the Water Quality Monitoring Plan shall include:

- Proposed monitoring locations. At a minimum, the locations shall include Lyons Reservoir, downstream of Lyons Dam, the South Fork Stanislaus River (SFSR) downstream of the Cushion Dam, and the Main Tuolumne Canal (MTC). Monitoring sites shall be selected to provide representative water quality samples and data to assess potential impacts to water quality that may be associated with Project facilities and operations;
- Frequency of proposed water quality monitoring. Monitoring shall occur at intervals throughout the FERC license term to document trends over time and changes in water quality associated with Project-related activities including operation and maintenance of the Project and its facilities;
- Constituents to be monitored. A list of water quality parameters that will be analyzed and associated sampling protocols. At a minimum, the parameters shall include dissolved solids, turbidity, nutrients, pH, dissolved oxygen, temperature, and electrical conductivity. Additional parameters that shall be assessed for inclusion in the plan include: harmful algal blooms, including cyanobacteria, and fecal coliform (at recreation sites). The Licensee may request Deputy Director approval to discontinue monitoring following sufficient data to support such a request – namely, information indicating that the Project does not influence the parameter in a manner that causes or contributes to (or threatens to cause or contribute to) an exceedance of water quality objectives or that fails to comply with state or federal antidegradation policies. The Licensee shall provide any such request to the Deputy Director for review and consideration of approval as an update to the Water Quality Monitoring Plan and shall provide sufficient evidence to support the request;
- Water temperature monitoring. Water temperature monitoring shall be conducted during all water year types as defined in Condition 1 of this certification. The Licensee shall identify and monitor an adequate number of sites to track the changes in water temperature entering, stored in, and released below Lyons Dam. In flowing water, the Licensee shall install and anchor appropriate devices to continuously record water temperature throughout the year. In Lyons Reservoir, the Licensee shall monitor water temperature and thermocline depth by profile sampling near Lyons Dam to determine reservoir stratification depths. The natural receiving water temperature of all regional waters shall not be altered unless it can be demonstrated to the satisfaction of

- the Central Valley Regional Water Board and State Water Board, that such alteration in temperature does not adversely impact beneficial uses;
- Quality assurance and control. Description of quality assurance and quality control procedures that will be used for collection and handling of samples and data validation;
 - Reporting and adaptive management. Format, schedule, and reporting to document, summarize, and analyze water quality monitoring results. The reporting shall include an evaluation of the water quality monitoring results and recommendation regarding whether additional monitoring is needed in future years, beyond what is required as part of Deputy Director-approved Water Quality Monitoring Plan, for some or all constituents. The Licensee may propose any updates or adaptive management measures to the Water Quality Monitoring Plan based on the monitoring results or new information related to water quality that may be impacted by Project operations. Monitoring reports shall be submitted to Forest Service, USFWS, CDFW, the Central Valley Regional Water Board, and the State Water Board. The Deputy Director may require additional monitoring or actions to protect water quality and beneficial uses based on monitoring results or other information in the record; and
 - Consultation documentation. Documentation of consultation with the Forest Service, USFWS, CDFW, Central Valley Regional Water Board, and State Water Board staff, including comments and recommendations made in connection with the plan, and a description of how the plan incorporates or addresses the comments and recommendations.

The Licensee shall file the Deputy Director-approved Water Quality Monitoring Plan, together with any required plan modifications, with FERC. The Licensee shall implement the Water Quality Monitoring Plan upon Deputy Director and any other required approvals. Any changes to the Water Quality Monitoring Plan shall be approved by the Deputy Director prior to implementation.

CONDITION 5 Biological Resources

Aquatic Resources

No later than three months following FERC license issuance, the Licensee shall implement the Aquatic Resources Plan¹⁸ (FERC eLibrary Accession No. 20210226-5397). Any changes to the Aquatic Resources Plan shall be submitted to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall file any Deputy Director-approved modifications to the Aquatic Resources Plan with FERC. Any changes to the Aquatic Resources Plan shall be approved by the Deputy Director prior to implementation.

The objectives of the Aquatic Resources Plan are to:

¹⁸ PG&E submitted the Project's Aquatic Resources Plan to FERC on February 26, 2021.

- Monitor the fish community that currently exists in the SFSR bypass reach. The aquatic resources management objective for the existing Project is to observe any long-term trends in this fish community. Periodic monitoring in the SFSR bypass reach shall be used to assess trends in the fish community over the term of the new FERC license in response to any changes in operations.
- Determine the presence and population status of foothill yellow-legged frogs (FYLFs) in the Project area and selected nearby tributaries.
- Gather water temperature data over a wider variety of water conditions than were present during the Project relicensing studies and to inform conservation and monitoring efforts for fish and FYLFs.

By January 31 of the year following when monitoring data are collected, the Licensee shall submit a report to the Deputy Director along with resources documenting the methodology used and the results of that year's survey. The Deputy Director or State Water Board staff may provide comments on the report. The report shall include comparisons to past surveys and discussion of any relevant changes or trends. Incidental observations shall also be included based on any new (since the last report) California Natural Diversity Database records or sightings provided by qualified biologists. A final report shall be developed after any comments are addressed, and shall be filed with FERC at least one month prior to the annual consultation meeting. The Licensee shall provide the Resource Agencies with the final report concurrent with the FERC filing. The Licensee shall meet with the Resource Agencies as part of the Annual Consultation Meeting (Condition 11) or soon thereafter to discuss the monitoring plan results and any changes observed, potential causes for those changes, whether those causes are Project-related, and how Project flows and activities may be adjusted to reduce impacts to or enhance habitat for FYLFs and native fishes. The Deputy Director may require modifications to the Aquatic Resources Plan based on information from the monitoring reports or relevant information in the Project record.

Invasive Species

No later than one year following FERC license issuance, the Licensee shall implement invasive species management in accordance with the Vegetation and Integrated Pest Management Plan¹⁹ (FERC eLibrary Accession No. 20210226-5397). Any modifications to the Vegetation and Integrated Pest Management Plan related to aquatic or riparian vegetation management shall be submitted to the Deputy Director for review and consideration of approval and must be approved by the Deputy Director prior to implementation. The Deputy Director may require modifications as part of any approval. The Licensee shall file Deputy Director-approved modifications to the Vegetation and Integrated Pest Management Plan with FERC. The Licensee shall comply with the terms and conditions in the State Water Board's ***Statewide National Pollutant Discharge Elimination System Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control***

¹⁹ PG&E submitted the Project's Vegetation and Integrated Pest Management Plan to FERC on February 26, 2021.

Applications²⁰ (State Water Board 2013), and ongoing amendments during the life of the Project.

Invasive species control, including zebra and quagga mussels as well as invasive weeds, is addressed in the Vegetation and Integrated Pest Management Plan's best management practices. However, if during routine inspections, invasives species are observed, the Licensee shall report these observations to the Resource Agencies during the Annual Consultation meeting and discuss whether additional best management practices or other avoidance and minimization measures need to be implemented. The Deputy Director may require modifications to the Vegetation and Integrated Pest Management Plan, including implementation of additional actions to control invasive species, based on reports of invasive species associated with this condition or other information in the Project record.

Special-Status Species

Before taking actions to construct new Project features that may affect aquatic or riparian special-status species, the Licensee shall prepare and submit a biological evaluation to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. Implementation of the proposed actions is contingent on approval of the biological evaluation by the Deputy Director. The biological evaluation shall be submitted no later than 60 days before construction and/or ground-disturbing activities are scheduled to occur. At a minimum the biological evaluation shall:

- Evaluate the potential impact of the action on the species or its habitat;
- Include procedures to minimize or avoid adverse effects to special-status species;
- Ensure Project-related activities include measures for protection of special-status species; and
- Effectiveness monitoring to ensure protection of special-status species.

The Licensee shall meet with the Resource Agencies at the Annual Consultation Meeting (Condition 11) to discuss any needed protection measures for species newly listed or proposed special status species, changes to existing plans for actions that may no longer be necessary due to delisting of a species, and changes to existing plans to incorporate new information about species requiring protection.

²⁰ Water Quality Order No. 2013-0002-DWQ and NPDES No. CAG990005, as amended by Order No. 2014-0078-DWQ, Order No. 2015-0029-DWQ, Order No. 2016-0073-EXEC, and any amendments thereto. Available at: https://www.waterboards.ca.gov/water_issues/programs/npdes/pesticides/weed_control.html. Accessed: June 1, 2022.

Riparian Wildlife

No later than three months following FERC license issuance, the Licensee shall implement the Wildlife Protection Plan²¹ (FERC eLibrary Accession No. 20210226-5397). Any changes to the Wildlife Protection Plan shall be approved by the Deputy Director prior to implementation. Any changes to the Wildlife Protection Plan shall be submitted to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC any Deputy Director-approved modifications to the Wildlife Protection Plan. The Licensee shall implement any Deputy Director-approved modifications to the Wildlife Protection Plan upon Deputy Director and any other required approvals.

The objectives of the Wildlife Protection Plan are to ensure protection of:

- General nesting birds protected under the Migratory Bird Treaty Act;
- Northern goshawk and California spotted owl;
- Bald eagle;
- Special-status bats; and
- Potential wildlife drowning in the MTC and electrocution at the Project switchyard.

The Licensee shall perform annual environmental awareness training for operations and maintenance staff and contractors. The training shall include, at a minimum:

- Review of locations of environmentally sensitive areas;
- Guidelines for identification of special-status species;
- Information about White Nose Syndrome;
- Information on the biology of special-status wildlife; and
- Reporting procedures for observations of new special-status species or invasive seeds.

CONDITION 6 Erosion and Sediment Control

Erosion Management

No later than three months following FERC license issuance, the Licensee shall implement the Erosion Management Plan²² (FERC eLibrary Accession No. 20210226-5397). Any changes to the Erosion Management Plan shall be submitted to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC any Deputy Director-approved modifications to the Erosion Management Plan. The Licensee shall implement any Deputy Director-approved modifications to the Erosion Management Plan upon receipt of Deputy Director and any other required approvals. Any changes to

²¹ PG&E submitted the Project's Wildlife Protection Plan to FERC on February 26, 2021.

²² PG&E submitted the Project's Erosion Management Plan to FERC on February 26, 2021.

the Erosion Management Plan shall be approved by the Deputy Director prior to implementation.

The Erosion Management Plan objectives are to identify the following:

- Licensee's best management practices and the Forest Service Pacific Southwest Regional and National Best Management Practices (USDA, Forest Service 2011 and 2012, or most current version per the Forest Service); and
- Practices that the Licensee will implement to control erosion and sedimentation in the FERC Project Boundary during routine operations and maintenance, and reconstruction or new construction of Project facilities, including emergency erosion control measures and protocols to control sedimentation during or after severe storm events.

Main Tuolumne Canal Spill Channel

No later than one year following FERC license issuance, the Licensee shall work with the Forest Service, USFWS, United States Bureau of Land Management (BLM), CDFW, and State Water Board to develop a Spill Channel Erosion Plan. The Spill Channel Erosion Plan shall describe current operational procedures for the MTC and provide a plan to determine and address, as appropriate, whether spill operations are causing accelerated erosion in the spill channels, adversely impacting water quality, or impacting resources associated with receiving waters. If adverse impacts are occurring, the Licensee shall develop and implement actions to address such impacts, as appropriate.

At a minimum, the Spill Channel Erosion Plan shall include:

- Description of current operational procedures for the MTC spill channels and an evaluation of potential options/flexibility on use of some channels over others to protect water quality and beneficial uses;
- Methods for evaluating spill channel erosion, and effects on receiving waters;
- Summary of the results of the preceding studies and recommended best management practices and other actions to address erosion. The plans shall include information on necessary permitting and permissions (i.e., right-of-way), construction design, restoration for construction impacts, monitoring, and a schedule for implementation and ongoing maintenance. The Licensee shall consult with the resource agencies and interested parties and get approval from the appropriate landowner(s);
- Format, schedule, and reporting to document and summarize monitoring, identify any new or ongoing impacts, and recommend adaptive management actions, if applicable. The Licensee may propose any updates or adaptive management actions to the Spill Channel Erosion Plan based on the monitoring results or new information related to water quality impacts related to spill channel operations or maintenance. Monitoring reports shall be submitted to Forest Service, USFWS, CDFW, BLM, and the State Water Board. The Deputy Director may require additional monitoring or actions to protect water quality and beneficial uses based on monitoring results or other information in the record; and

- Documentation of consultation with the Forest Service, USFWS, CDFW, BLM, and State Water Board staff, including comments and recommendations made in connection with the plan, and a description of how the plan incorporates or addresses the comments and recommendations.

The Licensee shall file with FERC the Deputy Director-approved Spill Channel Erosion Plan, together with any required plan modifications. The Licensee shall implement the Spill Channel Erosion Plan upon Deputy Director and any other required approvals. Any changes to the Spill Channel Erosion Plan shall be approved by the Deputy Director prior to implementation.

Project Roads and Trails

- No later than three months following FERC license issuance, the Licensee shall implement the Project Roads and Trails Plan²³ (FERC eLibrary Accession No. 20210226-5397) as modified by this condition. The following additional provisions are incorporated into the Project Roads and Trails Plan, such that the Licensee shall: Survey all Project roads and trails listed in the plan within the first full calendar year following FERC license issuance to determine their condition and identify any maintenance needs;
- Perform regular, at least annual, inspections of roads and trails to identify issues and maintenance needs;
- Address known impaired roads and trails as identified in the Project Roads and Trails Plan to reduce erosion and runoff;
- Implement best management practices during surveys, maintenance, and repairs as identified in the following plans: Wildlife Resources Plan, Vegetation and Integrated Pest Management Plan, Erosion Plan, Hazardous Materials Management Plan, and Historic Properties Management Plan;
- Obtain all necessary permits and approvals prior to implementing non-routine maintenance activities;
- By March 31 each year, provide annual reports that summarize inspections, maintenance needs, and all non-routine maintenance activities conducted in the previous calendar year. The report shall include the extent of erosion (with photos), monitoring results, any exceedances of the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (SR/SJR Basin Plan) water quality objectives, and documentation of any consultation with the Resource Agencies; and
- Provide consultation opportunities with the appropriate landowner(s) no less than 60 days prior to implementation of any non-routine maintenance activities.

Any changes to the Project Roads and Trails Plan shall be submitted to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC any Deputy Director-approved modifications to the Project Roads and Trails Plan. The Licensee shall implement any modifications to the Project Roads and Trails Plan upon Deputy

²³ PG&E submitted the Project's Project Roads and Trails Plan to FERC on February 26, 2021.

Director and any other required approvals. Any changes to the Project Roads and Trails Plan shall be approved by the Deputy Director prior to implementation.

Other Construction and Maintenance Activities

When applicable, the Licensee shall comply with the Construction General Permit (State Water Board 2009) and amendments thereto. For construction and maintenance activities with the potential to impact water quality or beneficial uses that are not subject to the Construction General Permit, and that are not covered by other conditions of this certification, the Licensee shall prepare and implement site-specific Water Quality Monitoring and Protection Plans (WQMP Plans). WQMP Plans must demonstrate compliance with sediment and turbidity water quality objectives in the SR/SJR Basin Plan. The Licensee shall consider developing the WQMP Plans consistent with the most recent United States Forest Service National Best Management Practices for Water Quality Management on National Forest System Lands (United States Forest Service 2012) and other appropriate documents. The Licensee shall submit the WQMP Plans to the Deputy Director for review and consideration of approval at least 60 days prior to the desired start date of the applicable construction or maintenance activity. The objective of the WQMP Plans shall be to identify and implement control measures for construction, maintenance, or other activities with the potential to cause erosion, stream sedimentation, fugitive dust, soil mass movement, release of hazardous materials, or other water quality impairment. The WQMP Plans shall be based on actual site geologic, soil, and groundwater conditions, and at a minimum shall include:

- Description of site conditions and the proposed activity;
- Detailed descriptions, design drawings, and specific topographic locations of all control measures in relation to the proposed activity, which may include:
 - Measures to divert runoff away from disturbed land surfaces;
 - Measures to collect and filter runoff from disturbed land surfaces, including sediment ponds at the diversion and powerhouse sites; and
 - Measures to dissipate energy and prevent erosion;
- Revegetation measures for disturbed areas, which shall include use of native plants and locally sourced plants and seeds; and
- A monitoring, maintenance, and reporting schedule.

The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC the Deputy Director-approved WQMP Plans, and any approved amendments thereto. The Licensee shall implement the WQMP Plans upon receipt of Deputy Director approval and any other required approvals, in accordance with the schedule and requirements specified therein.

CONDITION 7 Streamflow and Reservoir Gaging

No later than three months following FERC license issuance, the Licensee shall implement the Streamflow and Reservoir Gaging Plan²⁴ (FERC eLibrary Accession No. 20210226-5397) as modified by this condition. The following additional provisions are incorporated into the Streamflow and Reservoir Gaging Plan, such that the Licensee shall:

- Use USGS gage S-51 to document compliance with Condition 2 (Minimum Instream Flows) and Condition 3 (Ramping Rates);
- Verify the accuracy of the USGS gage S-51 and USGS gage S-16 during site visits using a staff gage. Gage accuracy verification site visits shall be conducted at least two times per year. The Licensee shall submit site visit records annually to USGS for review;
- Verify the stage-to-discharge relationship by performing streamflow measurements multiple times each year;
- Submit to USGS, for each year, a mean-daily flow summary station analysis and description, shift rationale, gage height corrections, current meter measurement summary, field data sheets, datum adjustments, rating tables, and hydrographs for the water year;
- Submit to USGS, by December 15 of each year, mean daily flow data for the previous water year (October 1 – September 30) for USGS gage S-51 and USGS gage S-16; and
- Annually submit a Streamflow and Reservoir Level Report to the Deputy Director that includes:
 - Streamflow and reservoir elevation data in electronic format; and
 - A description of any deviations from the streamflow and reservoir level requirements in the certification conditions.

Upon request, the Licensee shall provide State Water Board staff with information submitted to USGS under the terms of this condition.

Any changes to the Streamflow and Reservoir Gaging Plan shall be submitted to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC any Deputy Director-approved modifications to the Streamflow and Reservoir Gaging Plan, together with any required plan modifications. The Licensee shall implement any modifications to the Streamflow and Reservoir Gaging Plan upon Deputy Director and any other required approvals. Any changes to the Streamflow and Reservoir Gaging Plan shall be approved by the Deputy Director prior to implementation.

²⁴ PG&E submitted the Project's Streamflow and Reservoir Gaging Plan to FERC on February 26, 2021.

CONDITION 8 Hazardous Materials

No later than three months following FERC license issuance, the Licensee shall implement the Hazardous Materials Management Plan (HMMP²⁵) (FERC eLibrary Accession No. 20210226-5397). The HMMP identifies hazardous materials used for the operation and maintenance of the Phoenix Powerhouse and Switchyard, and hazardous materials used for maintenance of the Phoenix Project facilities. The Licensee shall implement the Hazardous Material Spill Prevention and Response procedures described in the HMMP to prevent hazardous materials spills.

Any modifications to the HMMP shall be submitted to the Deputy Director for review and consideration of approval. The Deputy Director may require modifications as part of any approval. The Licensee shall file with FERC any Deputy Director-approved modifications to the HMMP. The Licensee shall implement any modifications to the HMMP upon Deputy Director and any other required approvals. Any changes to the HMMP shall be approved by the Deputy Director prior to implementation.

CONDITION 9 Fish Stocking

The Licensee shall provide funds to the California Department of Fish and Wildlife (CDFW) to annually stock catchable trout in the MTC and Lyons Reservoir. The Licensee shall share the cost of stocking up to 4,000 pounds of fish with CDFW by annually providing half of the funds needed to stock fish in the MTC and Lyons Reservoir. Each year, CDFW will determine the amount of trout to be stocked and the dates when CDFW will plant the fish. Following CDFW determination of the amount of fish needed and timing of the stocking, the Licensee shall notify the Deputy Director of the amount of fish to be stocked and when the stocking will take place. Following consultation with the Resource Agencies, the Licensee may request approval from the Deputy Director to change the quantity of fish required to be stocked by this condition. The Deputy Director may require modifications as part of any approval. The Licensee shall implement the modified fish stocking requirements upon Deputy Director and any other required approvals. Fish stocking and related activities shall not result in adverse impacts to water quality or native species. The Deputy Director may require modifications to this condition if fish stocking or related activities are resulting in impacts to water quality or native species.

CONDITION 10 Extremely Dry Conditions

In the event of extremely dry conditions, which may include a year in which the Governor of the State of California or the Tuolumne County Board of Supervisors declare a drought emergency for Tuolumne County, the Licensee may request modification of the instream flow and related requirements (e.g., ramping rates) of this certification. If the Licensee anticipates that they may request modification pursuant to this condition, the Licensee shall notify the Resource Agencies and the Deputy Director of the Licensee's concerns related to instream flows and related requirements as early as possible. If the Licensee requests modification pursuant to this condition, the

²⁵ PG&E submitted the Project's HMMP to FERC on February 26, 2021.

Licensee shall develop a Revised Operations Plan in consultation with the Resource Agencies for modifications to instream flows or other relevant conditions of this certification during the extremely dry conditions.

The Licensee shall provide interested parties, including the Technical Review Group (Condition 11), with notice of the proposed Revised Operations Plan at least seven days prior to submittal to the Deputy Director. Whenever possible, the Licensee shall provide an opportunity for interested parties to comment on the proposed Revised Operations Plan prior to submittal to the Deputy Director, and provide such comments to the Deputy Director as part of the submittal of the Revised Operations Plan. The Licensee's request may include modifications to ramping rates, minimum instream flows, reservoir levels, and other relevant certification conditions. The request shall include:

- Identification of beneficial uses that will benefit from the proposed changes;
- A projected timeline for the return to regular operations;
- Proposed monitoring for the revised operations, including an estimation of any impacts the drought operations may have on any beneficial uses of water;
- Identification of measures to reasonably protect beneficial uses under the circumstances; and
- Proposed water conservation measures that will be implemented. If conservation measures are not applicable, the Licensee shall describe the circumstances and justification for not implementing water conservation measures.

The Licensee shall submit the proposed Revised Operations Plan to the Deputy Director for review and consideration of approval. The Licensee shall file the Deputy Director-approved Revised Operations Plan, together with any required plan modifications, with FERC. The Licensee shall implement the Revised Operations Plan upon Deputy Director and any other required approvals. Any changes to the Revised Operations Plan shall be approved by the Deputy Director prior to implementation.

CONDITION 11 Annual Consultation

No later than nine months following FERC license issuance, the Licensee shall establish a Technical Review Group (TRG) to meet annually regarding implementation of the Project license. At a minimum, staff from Forest Service, USFWS, CDFW, Central Valley Regional Water Board, State Water Board, and interested tribes and nongovernmental organizations (TRG members) shall be invited to participate in the TRG. The annual meeting shall be noticed at least 30 days in advance to the TRG members and the Project's interested parties email list maintained by FERC. The annual meeting shall be open to the public. The TRG shall establish communication protocols to facilitate interactions between group members that allow for open participation and communication between all parties. The first meeting of the TRG shall be held in September of the year following FERC license issuance, and every September thereafter, unless an alternate month is approved by the TRG. At the annual meetings, the TRG shall at a minimum:

- Review the status of implementing license and certification conditions;
- Review monitoring data from all monitoring conducted the previous year;

- Review elements of current year maintenance plans and any non-routine maintenance;
- Discuss:
 - Necessary revisions or modifications to plans approved as part of this certification;
 - Foreseeable changes to Project facilities or features;
 - Needed protection measures for species newly listed or proposed special status species;
 - Changes to existing plans for actions that may no longer be necessary due to delisting of a species; and
 - Changes to existing plans to incorporate new information about species requiring protection.

Materials shall be provided to TRG members at least 30 days prior to the annual meeting. The Licensee shall submit a report to State Water Board staff summarizing the annual consultation meeting no later than 60 days following the annual consultation meeting.

CONDITIONS 12 – 33

CONDITION 12. Unless otherwise specified in this certification or at the request of the Deputy Director, data and/or reports shall be submitted electronically in a format accepted by the State Water Board to facilitate the incorporation of this information into public reports and the State Water Board's water quality database systems in compliance with California Water Code section 13167.

CONDITION 13. This certification does not authorize any act which results in the take of a threatened, endangered, or candidate species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code, §§ 2050–2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531–1544). If a “take” will result from any act authorized under this certification or water rights held by the Licensee, the Licensee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Licensee is responsible for meeting all requirements of the applicable Endangered Species Acts for the Project authorized under this certification.

CONDITION 14. This certification shall not be construed as replacement or substitution for any necessary federal, state, and local approvals. The Licensee is responsible for compliance with all applicable federal, state, or local laws or ordinances and shall obtain authorization from applicable regulatory agencies prior to the commencement of Project activities.

CONDITION 15. Any requirement in this certification that refers to an agency whose authorities and responsibilities are transferred to or subsumed by another state or federal agency, will apply equally to the successor agency.

CONDITION 16. Notwithstanding any conditions in this certification, the Licensee's diversions and uses of water related to the Project are subject to the separate and

independent conditions and legal requirements under its water rights. Nothing in this certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action, if necessary, to prevent any unauthorized or threatened unauthorized diversions of water.

CONDITION 17. This certification is subject to modification or revocation upon administrative or judicial review, including but not limited to review and amendment pursuant to California Water Code, section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).

CONDITION 18. This certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent application for certification was filed pursuant to California Code of Regulations, title 23, section 3855, subdivision (b) and that application for certification specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

CONDITION 19. This certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28.

CONDITION 20. Notwithstanding any more specific provision of this certification, any plan developed as a condition of this certification requires review and approval by the Deputy Director. The State Water Board's approval authority, including authority delegated to the Deputy Director or others, includes the authority to withhold approval or to require modification of a plan, proposal, or report prior to approval. The State Water Board may take enforcement action if the Licensee fails to provide or implement a required item in a timely manner. If a time extension is needed to submit an item for approval, the Licensee shall submit a written request for the extension, with justification, no later than 15 days prior to the deadline. The Licensee shall not implement any plan, proposal, or report until after receiving approval and any other necessary regulatory approvals.

CONDITION 21. The State Water Board reserves the authority to add to or modify the conditions of this certification: (1) to incorporate changes in technology, sampling, or methodologies; (2) if monitoring results indicate that Project activities could violate water quality objectives or impair beneficial uses; (3) to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act; (4) to incorporate terms of a State Water Board-approved voluntary agreement that helps to meet water quality standards and other appropriate requirements of state law; (5) to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to meet water quality objectives and protect beneficial uses of water; and (6) to require additional monitoring and/or other measures, as needed, to ensure that Project activities meet water quality objectives and protect beneficial uses.

CONDITION 22. The Licensee shall submit any change to the Project, including operations, facilities, technology changes or upgrades, or methodology, which could have a significant or material effect on the findings, conclusions, or conditions of this certification, to the State Water Board for prior review and written approval. The State Water Board shall determine significance and may require consultation with state and/or federal agencies. If the State Water Board is not notified of a change to the Project, it will be considered a violation of this certification.

CONDITION 23. This certification is contingent on compliance with all applicable water quality requirements of the SR/SJR Basin Plan and the Bay-Delta Plan, and any amendment thereto.

CONDITION 24. Notwithstanding any more specific conditions in this certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee shall take all reasonable measures to protect the beneficial uses of waters of the state.

CONDITION 25. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation is subject to any remedies, penalties, process, or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this certification. In response to any violation of the conditions of this certification, the State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

CONDITION 26. In response to a suspected violation of any condition of this certification, the State Water Board or Central Valley Regional Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. (Wat. Code, §§ 1051, 13165, 13267, and 13383.)

CONDITION 27. Upon request, a construction schedule shall be provided to State Water Board and Central Valley Regional Water Board staff. The Licensee shall provide State Water Board and Central Valley Regional Water Board staff access to the Project site to document compliance with this certification.

CONDITION 28. A copy of this certification shall be provided to any contractor and all subcontractors conducting Project-related work, and copies shall remain in their possession at the Project site. The Licensee shall be responsible for work conducted by its contractor, subcontractors, or other persons conducting Project-related work.

CONDITION 29. Future changes in climate projected to occur throughout the term of the new FERC license may significantly alter the assumptions used to develop the conditions of this certification. The State Water Board reserves authority to add to or modify the conditions of this certification, to require additional monitoring and/or other measures, as needed, to verify that Project operations meet water quality objectives and protect the beneficial uses assigned to Project-affected stream reaches.

CONDITION 30. The State Water Board shall provide notice and an opportunity to be heard in exercising its authority to add to or modify the conditions of this certification.

CONDITION 31. The Licensee shall ensure no net loss of wetland or riparian habitat functions and is responsible for compliance with the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Board 2019) and the California Wetlands Conservation Policy (Governor’s Executive Order W-59-93 (Aug. 23, 1993)), and any amendments thereto.

CONDITION 32. The Licensee shall use analytical methods approved by California’s Environmental Laboratory Accreditation Program, where such methods are available. Samples that require laboratory analysis shall be analyzed by Environmental Laboratory Accreditation Program-certified laboratories.

CONDITION 33. The provisions of this certification are severable. If any provision of this certification is found invalid, affects the validity of the certification, or would result in a determination that the State Water Board has waived its section 401 certification authority for the Project, the State Water Board reserves authority to consider whether an alternative term would address the water quality issue without being found invalid or resulting in a waiver determination. If any provision of this certification is found invalid, affects the validity of the certification, or would result in a determination that the State Water Board has waived its section 401 certification authority for the Project, the remainder of this certification shall not be affected.

DRAFT

Eileen Sobeck
Executive Director

Date

8.0 References

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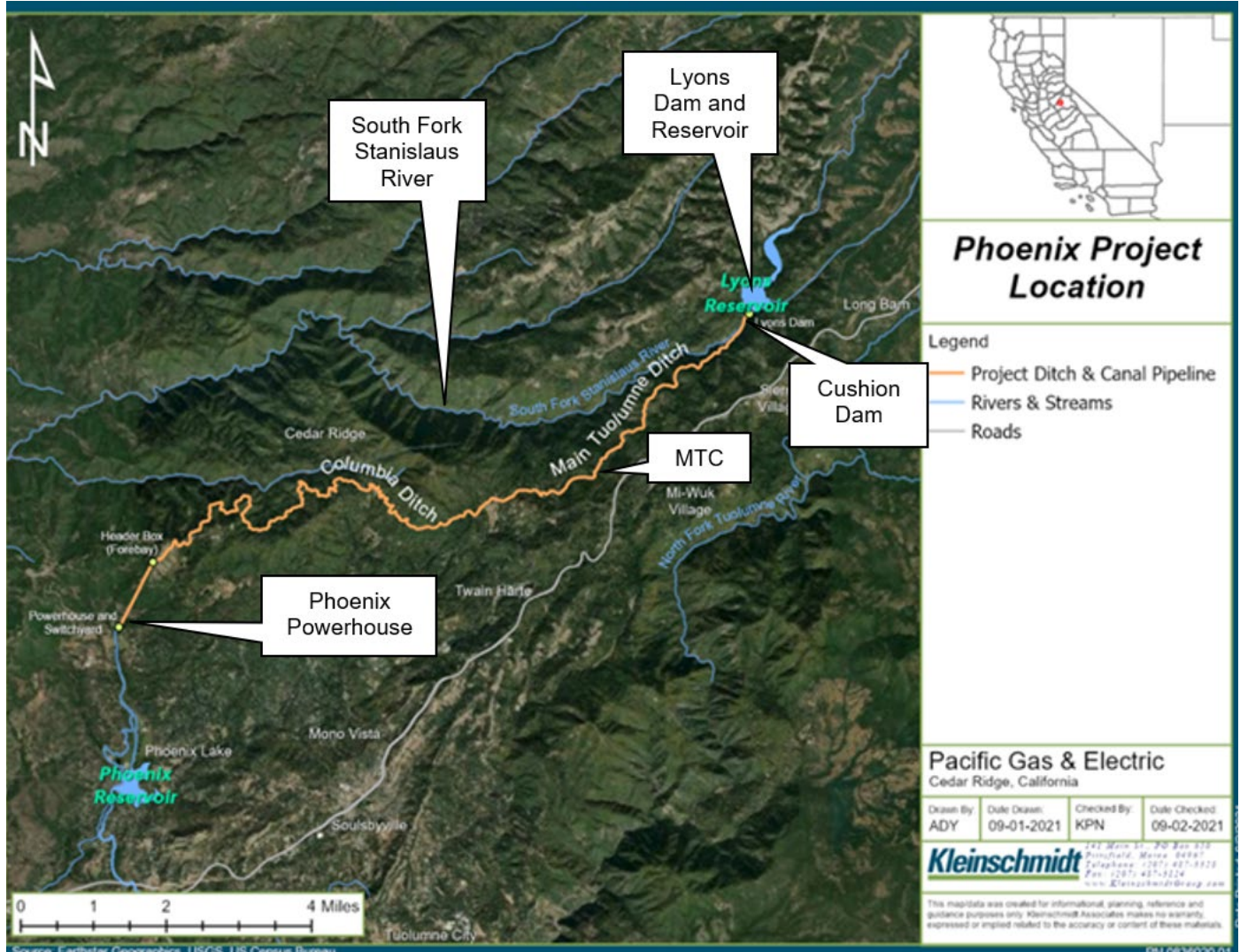


Figure 1. Overview Map of the Phoenix Hydroelectric Project²⁶

²⁶ Source: Image obtained from the Draft Initial Study and Negative Declaration, June 2022.

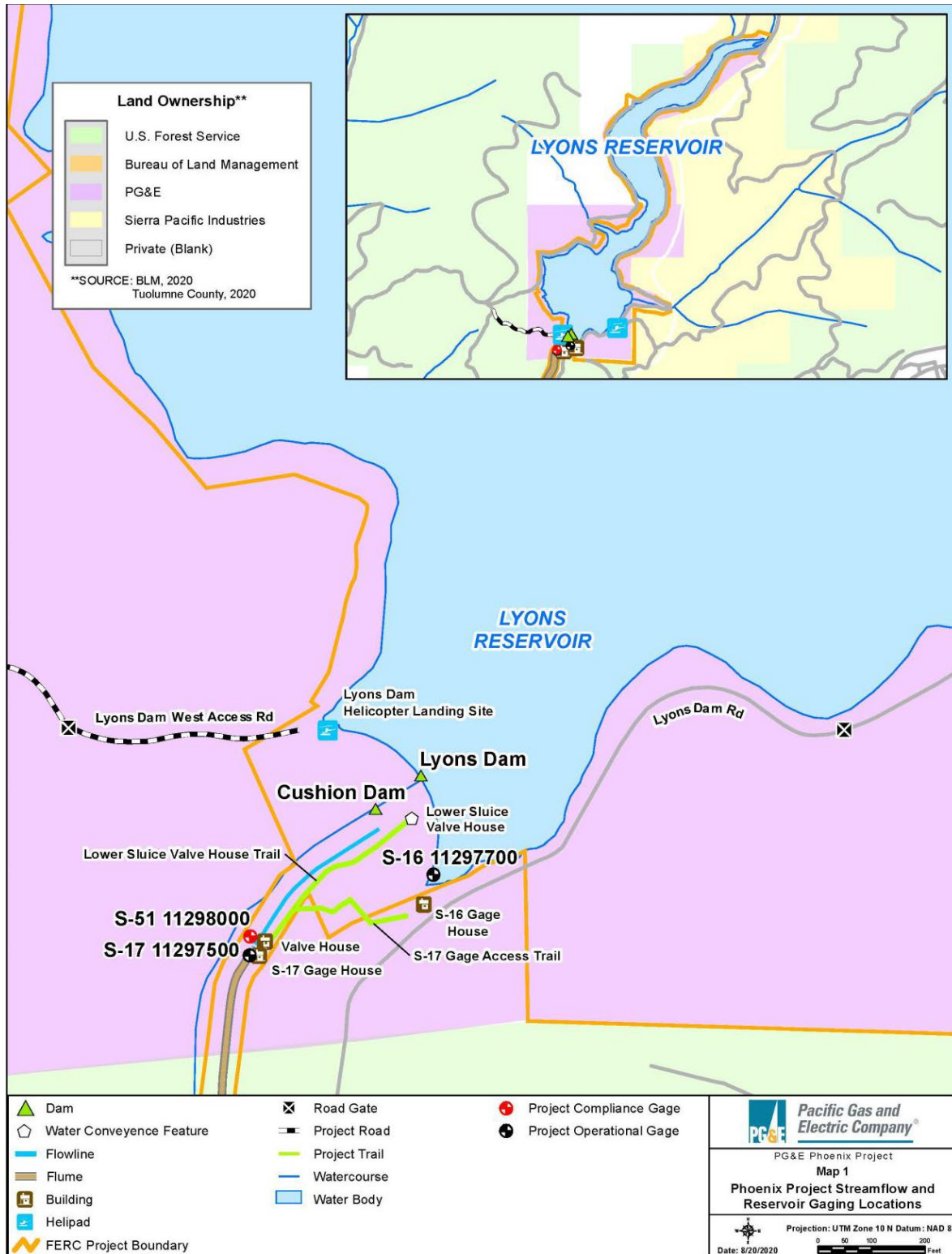


Figure 2. Map of the Phoenix Hydroelectric Project Gage Locations²⁷

²⁷ Source: Image obtained from PG&E's Final License Application August 24, 2020.