



State Water Resources Control Board

March 3, 2025

Mr. Tony Gigliotti
Senior Licensing Project Manager
Power Generation
P.O. Box 28209
Oakland, CA 94604
Sent via email: PVInquiryPGE@pge.com

Ms. Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426
Via e-filing to FERC Docket P-77

**Potter Valley Hydroelectric Project
Federal Energy Regulatory Commission Project No. 77
Mendocino, Lake, Trinity, and Humboldt Counties
Eel and East Branch Russian Rivers, Eel River Estuary, Pacific Ocean**

COMMENTS ON PACIFIC GAS AND ELECTRIC COMPANY'S DRAFT SURRENDER APPLICATION AND CONCEPTUAL DECOMMISSIONING PLAN FOR THE POTTER VALLEY HYDROELECTRIC PROJECT

Dear Mr. Gigliotti and Secretary Reese:

On January 31, 2025, Pacific Gas and Electric Company (PG&E) released for public review and comment a Draft Surrender Application and Conceptual Decommissioning Plan (Draft Surrender Application) for Potter Valley Hydroelectric Project (Hydroelectric Project) decommissioning activities (Surrender Project). PG&E is providing a 30-day comment period for the Draft Surrender Application with comments due by March 3, 2025.

The Draft Surrender Application includes removal of two dams and associated facilities and involves complex environmental and water supply considerations. State Water Resources Control Board (State Water Board) staff require additional time beyond the 30 days provided to comprehensively review and comment on the Draft Surrender Application.

State Water Board staff comments are provided in Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project. Comments included in Attachment A were developed in consultation with North Coast Regional Water Quality Control Board staff. As discussed with PG&E staff, State Water Board staff plan to provide additional comments by March 24, 2025.

Also attached is the State Water Board's February 8, 2024 Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project License Surrender and Decommissioning (Attachment B). The Draft Surrender Application includes several statements for individual resource categories indicating that insufficient information exists regarding the current environmental setting and potential environmental effects. State Water Board staff recommend PG&E work with State Water Board staff and other

E. JOAQUIN ESQUIVEL, CHAIR | ERIC OPPENHEIMER, EXECUTIVE DIRECTOR

interested parties to identify information needs and develop and implement studies, as needed. State Water Board staff will continue to discuss additional study needs with PG&E, and look forward to future conversations with PG&E and other interested parties related to the Surrender Project.

Previously, on December 22, 2023, State Water Board and North Coast Regional Water Quality Control Board (collectively Water Boards) staff provided comments on PG&E's Initial Draft Surrender Application and Decommissioning Plan and hereby incorporate those previous comments by reference (Attachment C).

If you have questions related to this letter, please contact Derek Wadsworth, Project Manager, by email to: Derek.Wadsworth@waterboards.ca.gov.

Sincerely,

Derek Wadsworth, P.E.
Water Resource Control Engineer
Water Quality Certification Program
Division of Water Rights

Attachments: Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

Attachment B: State Water Board Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project License Surrender and Decommissioning (for discussion purposes only)

Attachment C: December 22, 2023 State Water Board Staff Comments on PG&E's Initial Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

cc: Mr. Matt Myers, Senior Environmental Scientist
California Department of Fish and Wildlife
Email: Matt.Myers@wildlife.ca.gov

Ms. Dawn Alvarez, Regional Hydro Assistance Team Program Manager
United States Forest Service
Email: Dawn.Alvarez@usda.gov

Mr. Steve Edmondson, Branch Chief
National Marine Fisheries Service
Email: Steve.Edmondson@noaa.gov

Mr. Tony Gigliotti
Secretary Reese

- 3 -

March 3, 2025

Mr. Joshua Fuller, Branch Supervisor
National Marine Fisheries Service
Email: Joshua.Fuller@noaa.gov

Dr. Josh Boyce, Supervisory Fisheries Biologist
United States Fish and Wildlife Service
Email: Josh_Boyce@fws.gov

Mr. Lewis "Bill" Whipple, President
Round Valley Indian Tribes
Email: LWhipple@council.rvit.org

Ms. Janet Walther, Senior Manager Hydro Licensing
Pacific Gas and Electric Company
Email: JMW3@pge.com

ATTACHMENT A:
**STATE WATER BOARD STAFF INITIAL COMMENTS ON THE DRAFT SURRENDER
APPLICATION AND CONCEPTUAL DECOMMISSIONING PLAN FOR THE POTTER
VALLEY HYDROELECTRIC PROJECT**

The following comments are provided by State Water Resources Control Board (State Water Board) staff on Pacific Gas and Electric Company's (PG&E's) Draft Surrender Application and Conceptual Decommissioning Plan (Draft Surrender Application) for Potter Valley Hydroelectric Project (Hydroelectric Project) decommissioning activities (Surrender Project).

1. The State Water Board is the state agency responsible for issuing water quality certifications (certifications) for hydropower projects in California. (Wat. Code, § 13160.) Section 401 of the federal Clean Water Act (33 U.S.C. § 1341) requires any applicant for a federal license or permit for an activity that may result in any discharge to navigable waters to obtain certification from the State that the activity will comply with applicable water quality requirements, including the requirements of section 303 of the Clean Water Act (33 U.S.C. § 1313) for water quality standards and implementation plans. Clean Water Act section 401 directs that certifications shall prescribe effluent limitations and other conditions necessary to ensure compliance with the Clean Water Act and with any other appropriate requirements of state law (e.g., Porter-Cologne Water Quality Control Act) (Wat. Code, § 13000 et seq.). Conditions of certification shall become conditions of any federal license or permit for a project subject to certification. (33 U.S.C. § 1341(d).) The Surrender Project will result in discharges to navigable waters and PG&E must obtain certification from the State Water Board before the Federal Energy Regulatory Commission (FERC) can approve PG&E's license surrender.

A certification issued by the State Water Board for the Surrender Project must ensure compliance with the applicable regional and state water quality control plans. Water quality control plans designate the beneficial uses of water that are to be protected, 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 antidegradation requirements, constitute California's water quality standards for purposes of the Clean Water Act. In issuing a 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 antidegradation requirements. (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 714-719.)

The Hydroelectric Project facilities proposed to be decommissioned as part of the Surrender Project are located on the Eel and East Branch Russian Rivers. The Surrender Project will impact waterbodies listed in the *Water Quality Control Plan for the North Coast Region* (North Coast Basin Plan), specifically waterbodies within the

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

Lower Eel River Hydrologic Area, Middle Fork Eel River Hydrologic Area, Upper Main Eel River Hydrologic Area, and Upper Russian River Hydrologic Area that have the following beneficial use listings: municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; groundwater recharge; freshwater replenishment; navigation; hydropower generation; water contact recreation; non-contact water recreation; commercial and sport fishing; warm and cold freshwater habitat; wildlife habitat; rare, threatened, or endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; shellfish harvesting; estuarine habitat; and aquaculture; and Native American culture. As part of the Surrender Project's certification process, the State Water Board will evaluate the Surrender Project's potential impacts to all affected beneficial uses and applicable water quality objectives, as listed in the North Coast Basin Plan.

State Water Board staff note that as part of the Clean Water Act section 401 water quality certification process, any proposed project must comply with the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures). The Procedures ensure that State Water Board regulated activities will result in no net loss of wetland quantity, quality, or permanence, compliant with Executive Order W-59-93.

Additionally, the State Water Board must ensure that any project is consistent with the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Antidegradation Policy). The Antidegradation Policy 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. § 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."

State Water Board staff also recommend PG&E review California Code of Regulations, title 23, section 3856 when preparing its certification application to ensure the application is complete.

2. Compliance with the California Environmental Quality Act (CEQA) is required as part of the certification process. CEQA requires the lead agency to evaluate a project's potential impacts to environmental resources as well as identify mitigation measures and alternatives to reduce project impacts. CEQA also requires public input on identified impacts and mitigation measures. CEQA documentation must analyze and

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

evaluate the Project's impacts to all relevant resources, including aquatic biological resources, special status species, and water quality.

It is State Water Board staff's understanding that the State Water Board is the CEQA lead agency for the Surrender Project. State Water Board staff plan to begin the CEQA process in the first half of 2025 as the CEQA process can occur independent of the certification process and will help inform the State Water Board's action on PG&E's certification request. Since February 28, 2024, State Water Board staff have requested PG&E execute a three-party memorandum of understanding (MOU) to provide for development of CEQA documents. It is State Water Board staff's understanding that the MOU will be executed shortly.

3. Draft Surrender Application, Volume II, section 3.4.1 includes PG&E's environmental effect determinations for the Surrender Project. In general, since the monitoring, management, and mitigation plans and measures have not yet been fully developed, State Water Board staff are unable to fully comment on PG&E's proposed management measures and environmental effect determinations. The State Water Board reserves its right to comment on the management plans and measures once developed. Please note, the State Water Board, as the CEQA lead agency, will make impact determinations that may differ from those characterized by PG&E in its Draft Surrender Application.
4. Draft Surrender Application Volume I, section 3.1.2 states, "The Fish Attraction Facility (Fish Hotel and Exclusion Barrier) will either be removed or transferred to [Eel-Russian Project Authority (ERPA)] for the [New Eel-Russian Facility (NERF)] and removed from the FERC license." PG&E's Final Surrender Application should clarify whether the Fish Attraction Facility will be removed as part of the Surrender Project or transferred to ERPA and remain in place as each action would result in different environmental effects and affects the scope of the requested certification action(s).
5. Draft Surrender Application Volume I, Table 5-2 includes PG&E's restoration goals following removal of the Hydroelectric Project facilities associated with the Surrender Project. State Water Board staff recommend the following additional restoration goals be added: exclusive use of native plants with preference for plants that promote soil stabilization; minimize wetland impacts while ensuring no net loss in wetland habitat, function, quantity, quality, or permanence; and ensuring floodplain connectivity within all Surrender Project-affected waterbodies.

State Water Board staff further recommend PG&E review the following resources when developing a formal restoration plan: California Trout's 2024 Draft Eel River Restoration and Conservation Plan; California Department of Fish and Wildlife's 2010 California Salmonid Stream Habitat Restoration Manual; State Water Board's 2022 Statewide Restoration General Order; Condition 14 - Restoration of the State Water Board's 2020 water quality certification for the Klamath Dam Removal Project; and Lower Klamath Project Reservoir Area Management Plan; State Wetland

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State; and Executive Order W-59-93.

6. Draft Surrender Application Volume I, Table 5-2, includes a restoration goal of, “Conversion of lacustrine habitat [at Van Arsdale Reservoir] to a control section that would maintain a minimum bed elevation near the pump station intake screens [for the NERF] within the former Van Arsdale Reservoir.” State Water Board staff recommend the control section be designed in a manner that facilitates volitional fish passage.
7. Draft Surrender Application Volume I, section 6.3.1.2 and Volume II section 3.4.1 state, “This action would also have a smaller long-term effect of increased turbidity during high-flow events as the remainder of the sediments are remobilized and carried out to the ocean for 1 to 3 years.” The Final Surrender Application should include supporting information as to why this time period was selected and an analysis of the potential environmental effects, as well as measures to reduce environmental effects during the 1 to 3 year time period. The Final Surrender Application should define the range of increased turbidity and provide a full analysis for how increased turbidity numbers were calculated and if and for how long turbidity levels are anticipated to exceed the North Coast Basin Plan turbidity-related water quality objectives.
8. Draft Surrender Application Volume I, section 6.3.1.3, states, “Short-term unavoidable adverse effect to fish and aquatic resources from removal of fish capture/management infrastructure at Cape Horn Dam prior to an entire year class (cohort) of Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*O. mykiss*), and Pacific lamprey (*Entosphenus tridentatus*) arriving at Cape Horn Dam could result in loss of the entire cohort and jeopardize the ability to implement Construction Aquatic Species Management and Monitoring Plan measures to provide fish salvage, capture, relocation, and broodstock rescue (Phase 1).” State Water Board staff recommend PG&E’s Final Surrender Application clarify the timing of when the fish ladder at Cape Horn Dam would be offline and any conditions that would be met before deciding to stop use of the fish ladder.
9. Draft Surrender Application Volume I, section 6.3.1.5, states impacts to Tule elk (*Cervus canadensis nannodes*) and other game mammals would include, “Alteration of riparian, wetland, and agricultural foraging habitat in the East Branch Russian River because diversions to the East Branch Russian River would no longer occur under the Proposed Action (Phase 2).” State Water Board staff recommend PG&E’s Final Surrender Application expand the analysis and determine Tule elk habitat changes around Lake Pillsbury and any other Surrender Project affected areas. The final license surrender application should also include potential actions to reduce

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

Surrender Project effects to Tule elk (e.g., restoration actions to ensure habitat availability following Surrender Project implementation).

10. Draft Surrender Application Volume I, section 6.3.2.1 states, “Any temporary and short-term cessation of diversions to the East Branch Russian River during construction of the NERF would have an adverse effect on its hydrology.” State Water Board staff recommend PG&E clarify in its Final Surrender Application the estimated timing and duration of no diversions from the Eel River to the East Branch Russian River in order to inform a complete environmental impacts analysis. Please also include the proposed changes in the amount and/or timing of diversions associated with the Surrender Project during Lake Pillsbury drawdown.
11. Draft Surrender Application Volume II, section 2.1.1.2, states “A corrugated pipe along the ladder provides alternative upstream passage for adult lamprey.” State Water Board staff request PG&E evaluate the need for and feasibility of providing adult lamprey passage during the initial low-flow season (i.e., drawdown).
12. In order to determine if any of the facilities and sites listed in Draft Surrender Application Volume II, Tables 2-8 and 2-10 are potentially contaminated with hazardous materials (e.g., asbestos, heavy metals, polychlorinated biphenyls, creosote-treated wood), State Water Board staff recommend that PG&E perform Phase I Environmental Site Assessments. The Final Surrender Application and proposed Hazardous Materials Measures should describe the amount and types of hazardous materials, along with measures to ensure that hazardous materials are stored and disposed of in a manner consistent with state and federal law.
13. Draft Surrender Application Volume II, Maps 2-8 and 2-10 indicate that Surrender Project decommissioning will involve construction of temporary access roads or river crossings and road improvements. Draft Surrender Application Volume II, Tables 2-8 and 2-10, include removal and restoration (i.e., designated as “RR” in the tables) of roads. As part of development of PG&E’s proposed Construction Transportation Management Plan, State Water Board staff recommend PG&E consult with emergency services and the United States Forest Service to determine appropriate measures to ensure safe public evacuation and access routes in emergency situations during and following Surrender Project activities. State Water Board staff also recommend that PG&E construct, maintain, and decommission access routes consistent with the conditions in 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);¹ *Draft General Clean Water Act Section 401 Water Quality Certification and*

¹ 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

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

*Waste Discharge Requirements for Utility Wildfire and Similar Operations and Maintenance Activities;*² and Handbook for Forest, Ranch, and Rural Roads.³

14. Draft Surrender Application Volume II, Map 2-8 indicates that the “North Dam End Staging” area will be approximately 50 feet from the ordinary high water mark of Lake Pillsbury. State Water Board staff are concerned that there may not be sufficient slope protection at this location and request PG&E explore alternative staging areas that are further away from waters of the state and less likely to result in runoff and potential discharges to waters of the state.
15. Draft Surrender Application Volume II, section 2.2.1 states, “A barge will be placed at the launch site to move heavy equipment to the spillway apron. At the spillway apron, a ramp will be constructed to allow movement of construction equipment between the barge and spillway apron.” State Water Board staff are concerned that the Scott Dam spillway apron would need to be dewatered and isolated to prevent potential discharges of pollutants from heavy equipment. Use of temporary cofferdams, pumps, or other strategies to prevent discharges of pollutants prior to sediment flushing should be included in the Surrender Project design. State Water Board staff request PG&E’s Final Surrender Application include an estimate of the spillway apron’s dimensions, feasibility to be dewatered, and measures to ensure that any debris generated by tunnel boring will not be discharged to the Scott Dam spillway apron or waters of the state. State Water Board staff also request PG&E’s Final Surrender Application clarify the slope and material used for the ramp and whether the ramp will be on top of the spillway apron or in the channel or plunge pool area downstream of Scott Dam.
16. Draft Surrender Application Volume II, Figure 2-3 indicates that the remaining portions of the abutments will be abandoned. State Water Board staff reiterate comment No. 13 from the Water Boards’ December 22, 2023 comment letter on PG&E’s Initial Draft Surrender Application. Specifically, State Water Board staff recommend the Final Surrender Application include a list of remaining dam portions, a description of how all abandoned dam portions will be stabilized, and justification for leaving infrastructure in place. Additionally, any remaining facilities should be managed in a manner that does not entrain water and does not adversely affect water quality.
17. Draft Surrender Application Volume II, section 2.2.1.1, states, “Initiate reservoir drawdown after the runoff season when inflows are generally below 400 cfs, the

² Available at:

https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/2024/draft-utility-general-order.pdf. Last accessed: February 19, 2025.

³ Weaver, W.E., Weppner, E.M. and Hagans, D.K., 2015, Handbook for Forest, Ranch and Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining and Closing Wildland Roads (Rev. 1st ed.), Mendocino County Resource Conservation District, Ukiah, California.

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

approximate capacity of the needle valve.” State Water Board staff understand a drawdown plan has not yet been developed and that development will involve technical discussions with resource agencies and interested parties regarding inflow scenarios and potentially adverse impacts. State Water Board staff recommend PG&E’s Final Surrender Application evaluate a range of drawdown rates and timings to better inform a drawdown that best minimizes water quality, public resource, and environmental impacts.

Additionally, on February 7, 2025, PG&E submitted an incident report to FERC regarding a Scott Dam low-level outlet leak. The Final Surrender Application should clarify the magnitude of the leak and whether the leak will affect the capacity and reliability of the low-level outlet and the drawdown rate.

18. Draft Surrender Application Volume II, section 2.2.1.1, states, “At the downstream terminus of the adit tunnel, a channel (approximately 80–90 ft. in length and 7.5–14.5 ft. deep) would be constructed through the spillway apron and concrete buttress to facilitate a continuous pathway for sediment transport from the adit tunnel to the river downstream once flushing begins.” State Water Board staff are concerned that the channel could fill with sediment or debris following blowing of the adit plug and recommend PG&E provide additional supporting information for the channel’s dimensions and develop contingency measures to ensure draining of Lake Pillsbury is not significantly affected by sediment or debris blocking the channel or adit.
19. Draft Surrender Application Volume II, section 2.2.1.1, states, “Some large clean material from the dam (e.g., no rebar protruding, greater than approximately 2 ft. diameter) will be placed in the plunge pool area below the final river grade. Material will be large enough and placed deep enough that it will not be eroded/mobilized before the accumulated bedload in the reservoir is released and has an opportunity to occupy the space.” State Water Board staff reiterate comment No. 10 from the Water Boards’ December 22, 2023 comment letter regarding PG&E’s Initial Draft Surrender Application. Specifically, State Water Board staff recommend the Final Surrender Application discuss what material testing procedures will be implemented to confirm the material is “clean”; describe appropriate best management practices that will be implemented for placement of material within waters of the state; and describe post-placement monitoring to confirm that material is not eroded/mobilized. The Final Surrender Application should include information supporting the assumption that materials from the dam will be below the final river grade. Also, State Water Board staff request the Final Surrender Application clarify if material will either be temporarily “placed” or “stored” or permanently disposed in the plunge pool. Additionally, the Final Surrender Application should clarify the volume of the plunge pool area and estimated quantity of material proposed to be placed in this area and if there are alternative disposal locations that are less impactful.

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

20. Section 2.2.1.1 of Volume II of the Draft Surrender Application, states, “Dredge sediments near the new tunnel intake. Reservoir sediment deposits (estimated 15 ft. deep) immediately upstream of the concrete adit plug (tunnel intake) will be removed using a clamshell dredge or similar approach.” State Water Board staff recommend PG&E estimate the quantity of material required to be dredged near the new adit tunnel intake. Additionally, the Final Surrender Application should clarify that dredging will be isolated and/or not block the intake for the low-level outlet. State Water Board staff recommend PG&E consider additional dredging actions if there is a concern that sloughing during drawdown may block the low-level outlet intake.

Since Lake Pillsbury is designated as impaired for mercury by the United States Environmental Protection Agency (USEPA) under Section 303(d) of the Clean Water Act, State Water Board staff are concerned that the dredge material could be contaminated. State Water Board staff recommend PG&E use turbidity curtains and that the sediments be tested for mercury and methylmercury prior to dredging. If mercury is detected in the samples, PG&E should consult with the State Water Board and resource agencies prior to removal, placement, and/or disposal of any dredged material. The Final Surrender Application should also clarify where the dredged material is proposed to be disposed.

21. Draft Surrender Application Volume II, section 2.2.1.1, states, “The bulk of the remaining materials will be stored and capped on site (e.g., along the left abutment, on the cribwall, and/or behind the remainder of the dam upstream of the pinnacle).” State Water Board staff reiterate comment No. 13 from State Water Board staff’s December 22, 2023 comment letter regarding PG&E’s Initial Draft Surrender Application. The Final Surrender Application should specify how materials will be “capped” to avoid potential water quality impacts, assess the condition of the abutment and cribwall to retain waste dam materials, evaluate soil stability, and describe how waste material would be stored to avoid mobilization following a landslide or seismic event.

22. Draft Surrender Application Volume II, section 2.2.1.1, states, “Nuisance water would be pumped/siphoned on an ongoing basis during construction and passed downstream, into an alluvial settling basin and/or into the diversion tunnel.” State Water Board staff are concerned that highly turbid ‘nuisance’ water could contain elevated levels of contaminants from reservoir sediments and its discharge may result in increased sedimentation and water quality impacts in the diversion tunnel/East Branch Russian River or the Eel River (through subsequent discharge from the alluvial settling basin). Please provide additional information on how PG&E is proposing to determine if ‘nuisance waters’ would be captured in settling basins or discharged into the diversion tunnel.

23. Draft Surrender Application Volume II, section 2.2.1.1 discusses the construction of several cofferdams in the Van Arsdale Reservoir Area. The Final Surrender

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

Application should describe the cofferdam material type and source of any earthen materials.

24. Draft Surrender Application Volume II, Map 2-10, shows existing piezometer(s) within the proposed bypass channel. If the existing piezometers indicate that significant leakage occurs in this area, then PG&E should evaluate whether the bypass channel needs to be stabilized or armored to maintain sufficient bypass flows around the dewatered area. The bypass channel should be composed of clean, angular material of sufficient size to prevent it being washed away by high flows.
25. Draft Surrender Application Volume II, Map 2-10, shows a “Sediment Storage/ Construction Staging Area” immediately next to the bypass channel. State Water Board staff are concerned about the potential for the bypass channel to be overtopped and recommend that sediment storage and construction staging areas be located away from areas where runoff could discharge to waters of the state.
26. Draft Surrender Application Volume II, section 2.2.1.1, states, “Remove or partially remove the existing fish ladder at Cape Horn Dam by cutting the walls down to surrounding grade and infilling the pools with flowable fill or similar material.” State Water Board staff recommend removal of all infrastructure that has potential to impact water quality and restoration to pre-Hydroelectric Project conditions. Any remaining facilities should be managed to prevent water quality, aquatic resource, and public safety impacts.
27. Draft Surrender Application Volume II, Figure 2-6 shows the relative location of cofferdams, access roads, and a green line which appears to signify the dewatered area. It is unclear from the figure where flows will be diverted around the green area and if additional excavation upstream from the temporary bypass cofferdam is needed to redirect bypassed flows.
28. Draft Surrender Application Volume II, section 2.2.1.1, states, “The remainder of the sediment would be removed mechanically or flushed passively once the cofferdams have been removed.” The Final Surrender Application should clarify the estimated quantity of material that may be removed mechanically or flushed passively.
29. Draft Surrender Application Volume II, Table 2-14, states, “PG&E will comply with all required applicable local, state, and federal standards associated with handling and disposal of hazardous materials.” For onsite disposal of inert, non-hazardous debris, State Water Board staff recommend PG&E select disposal site locations where drainage patterns can be preserved. If a waste disposal site has the potential to drain into surface waters, catch basins should be constructed whenever feasible and other appropriate best management practices should be implemented, to intercept runoff before it reaches surface waters.
30. Draft Surrender Application Volume II, Table 2-14, indicates PG&E will conduct special-status plant and invasive weed surveys “in the year prior to construction.”

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

State Water Board staff understand that surveys were last conducted in 2018 and recommend that surveys be conducted well in advance of construction as to inform Surrender Project activities such as staging and road alignment, and appropriate mitigation to reduce Surrender Project-related impacts.

31. Draft Surrender Application Volume II, Table 2-14, indicates PG&E will develop a Fish Rescue and Relocation Plan. The Final Surrender Application should clarify where rescue and relocation will occur in the Eel and East Branch Russian Rivers. PG&E should also identify suitable relocation sites for individual species by life stage and measures to ensure relocation success.
32. Draft Surrender Application Volume II, Table 2-14, includes Riparian and Wetland Protection Measures, including “Riparian vegetation within the construction areas and directly adjacent to construction areas that will not be removed as part of construction will be flagged for avoidance prior to construction.” State Water Board staff recommend a minimum 20-foot buffer from delineated wetlands potentially affected by construction impacts (unless site-specific conditions require adjustment of the buffer in a manner that remains protective of delineated wetlands and is acceptable to a qualified and approved biologist) to deter heavy machinery from traversing the wetland and prevent runoff pollution associated with Surrender Project activities from directly entering wetlands. State Water Board staff note that as part of the Clean Water Act section 401 and 404 permit processes, wetlands will need to be delineated pursuant to the *California State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*.
33. Draft Surrender Application Volume II, Table 2-14 does not include Hazardous Materials Measures for removal of sanitary facilities (e.g. vault toilets or septic tanks) associated with recreation facilities. The Final Surrender Application should include an inventory of recreation facility sanitary facilities and any proposed measures to decommission any septic tanks. For example, all existing septic tanks associated with Hydroelectric Project facilities should be decommissioned in place or removed and disposed of in accordance with the corrective action requirements specified in the State Water Board’s Water Quality Control Policy.
34. Draft Surrender Application Volume II, Table 2-14 includes a proposed “Scott Dam Slope Stability Monitoring Plan.” As part of the proposed plan, State Water Board staff recommend PG&E consider performing additional geotechnical analysis to determine the seismic stability of the pinnacle adjacent to the historical landslide upstream of Scott Dam and whether it may become unstable following draining of Lake Pillsbury.
35. Draft Surrender Application Volume II, Table 2-14 includes a proposed “East Branch Russian River Diversion Plan.” The Final Surrender Application should clarify that all diversions will be screened to minimize entrainment of aquatic organisms.

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

36. Table 2-16 of PG&E's Draft Surrender Application states the Sediment/Channel Monitoring and Response Plan will include, "Measures to maintain mainstem and tributary fish passage, including at critical riffles, tributary confluences, and the dam site." Monitoring and measures for new riverine channels within the former reservoir footprints should be added to clarify that fish passage will be maintained throughout Surrender Project-affected waters.
37. Section 3.2 of PG&E's Draft Surrender Application states, "Below the Middle Fork Eel River, potential hydrologic effects of the Project are significantly diminished due to inflow from the Middle, South, and North forks of the Eel River and the Van Duzen River." While State Water Board staff understand that Hydroelectric Project diversions, bypassed flows, and Hydroelectric Project releases may frequently compose a relatively low percentage of instream flows downstream of the Middle Fork Eel River confluence, State Water Board staff disagree with the statement and request it be revised to acknowledge potential Surrender Project effects downstream of this confluence, especially if elevated releases are made during the low flow season. A statement similar to the one in section 3.2.5.3 may be appropriate (i.e., Hydroelectric Project releases ultimately affect the Eel River to its confluence with the Pacific Ocean).
38. Section 3.3.2.2 of PG&E's Draft Surrender Application identifies the numeric North Coast Basin Plan water quality objectives for pH, DO, fecal coliform, and water temperature. However, it is important to also identify the numeric objective for turbidity, as well as the narrative water quality objectives for temperature, sediment, settleable material, and suspended material.
39. Section 3.3.2.2 of PG&E's Draft Surrender Application includes dissolved oxygen water quality objectives for COLD, WARM, and SPWN beneficial uses. Since the Ferndale Hydrologic Subarea has Estuarine Habitat (EST) as an existing beneficial use, an additional dissolved oxygen water quality objective from North Coast Basin Plan section 3.3.5 applies and should be added to the Final Surrender Application. The objective is as follows: "For the protection of estuarine habitat (EST), the dissolved oxygen concentration of enclosed bays and estuaries shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors."
40. Section 3.3.2.2 of PG&E's Draft Surrender Application includes a subsection titled, "Water Quality Impaired Water Bodies." This section should be updated to include the current (i.e., 2026 California Integrated Report for Clean Water Act Sections 303(d) and 305(b)) listings for Surrender Project-affected waterbodies as follows:
 - a. Lower Main Eel River is listed for: aluminum, dissolved oxygen, sediment, sedimentation/siltation, and temperature;

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

- b. Middle Main Eel River is listed for: aluminum, sediment, sedimentation/siltation, and temperature;
- c. Upper Main Eel River is listed for aluminum, anatoxin-A, benthic community effects, microcystins, dissolved oxygen, saxitoxins, sediment, sedimentation/siltation, specific conductivity, temperature, total dissolved solids, and turbidity;
- d. Lake Pillsbury is listed for mercury; and
- e. East Branch Russian River (i.e., Coyote Valley HSA) is listed for: aluminum, sediment, sedimentation/siltation, and temperature.

Though the North Coast Regional Water Board has not completed a total maximum daily load (TMDL) addressing the mercury impairment in Lake Pillsbury, there are draft work products that may be useful in characterizing the impairment and identified sources. The Final Surrender Application should also summarize the history of Lake Pillsbury fish consumption advisories by the Office of Environmental Health and Hazard Assessment.

- 41. Table 3.3.2-6 of PG&E's Draft Surrender Application indicates measurements of aluminum, iron, and manganese exceeded threshold criteria. Additionally, chromium and nickel measurements were about half of the threshold criteria. The Final Surrender Application should clarify the number of samples and locations where metals concentrations were greater than threshold criteria. PG&E should evaluate reservoir sediments and conduct additional monitoring throughout the watershed to understand whether these elevated values are consistent with existing background.
- 42. Section 3.3.2.3 of PG&E's Draft Surrender Application includes the following statement, "Extended periods with elevated turbidity have been reported due to fine-grained clays that stay in suspension for extended periods (NCRWQCB 2018)." This statement's citation appears to be incorrect as its referencing to the Basin Plan. Any water quality data regarding extended periods of elevated turbidity in Lake Pillsbury and the likely sources of the turbidity should be included in the Final Surrender Application.
- 43. Section 3.3.2.3 of PG&E's Draft Surrender Application includes the following statement, "The 1975 USEPA survey also reported an observed algal bloom in the Rice Fork Arm of the reservoir in March and included a personal communication citation stating that fish kills were reported to be a problem in the lake." Additionally, Section 3.3.2.3 of PG&E's Draft Surrender Application includes a subsection titled, "Cyanobacteria and Toxin Sampling." The Draft Surrender Application does not provide a potential source of the harmful algal blooms and cyanotoxins detected in Lake Pillsbury. The Draft Surrender Application states, "It is expected, therefore, that removal of Scott Dam would have a short-term (1 to 3 years) significant effect on water quality in the Eel River due to high nutrient levels, which could lead to algal

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

blooms, some of which could produce toxins. PG&E would implement the Post-construction Water Quality and Water Temperature Monitoring Plan.” State Water Board staff request PG&E provide information to support its determination that nutrient releases from the dam would result in up to 3 years of potential algal blooms in the Eel River. Additionally, State Water Board staff recommend monitoring for harmful algal blooms and cyanotoxins in reaches of the Eel River where nutrient rich sediments may be deposited and slack water/side channel areas.

44. Figures 3.3.2-6 and 3.3.2-7 include suspended sediment and turbidity data from 1959-1980. State Water Board staff recommend PG&E collect more current suspended sediment and turbidity data during a range of Hydroelectric Project releases to provide an accurate assessment of existing conditions that will inform potential Surrender Project impacts. Additionally, State Water Board staff request PG&E ensure the sediment transport model models sediment transport throughout the Eel River and into the Pacific Ocean and accounts for dilution rates associated with downstream tributaries, and existing suspended sediment inputs from tributaries.
45. Section 3.3.2 of the Draft Surrender Application includes three appendices which include historical water temperature data generally collected between April and October. State Water Board staff recommend PG&E collect additional water temperature data during all months when Surrender Project activities may occur to inform an accurate existing condition.
46. Section 3.3.3 of the Draft Surrender Application states, “The non-native invasive bivalve *Corbicula fluminea* (i.e., Asian clam) was observed by PG&E during 2018 surveys below Scott Dam to the Middle Fork Eel River confluence.” Since the “potential for the spread of this species within the watershed is high” State Water Board staff recommend the proposed Construction Non-native Invasive Aquatic Species Management Plan include Asian clams.
47. Section 3.3.6 of the Draft Surrender Application states, “Nickel concentrations were elevated about two- to three-fold above the screening levels, but are likely indicative of background concentrations in this area, as they fall within the range of concentrations measured in other reservoirs and California soils.” The Final Surrender Application should cite which other reservoirs or other local sampling informed this statement.
48. Draft Surrender Application Volume II, section 3.3.13-4 briefly discusses the populations along the Eel River, East Branch Russian River and Lake Mendocino that could be impacted by dam removal. State Water Board staff recommend PG&E catalog all points of water diversions in Surrender Project-affected waterbodies and consider how each would be impacted at each stage of dam removal and develop measures to mitigate those impacts, including drinking water and agricultural supply.

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

This analysis should also consider groundwater and emergency water supplies for firefighting.

49. Section 3.3.6.7 of the Draft Surrender Application states, “Detailed information about the groundwater wells in the vicinity of Lake Pillsbury is not readily available.” Section 3.4.1.7 of the Draft Surrender Application states, “The connectivity between groundwater and Lake Pillsbury is currently unknown... The number and location of groundwater wells that could potentially be affected by dewatering Lake Pillsbury are currently unknown.” Additional information should be collected regarding the depth and use of the wells in the areas surrounding Scott Dam and Cape Horn Dam according to Map 3.3.6-9. State Water Board staff recommend a study to characterize existing groundwater connectivity and identify potential impacts to domestic groundwater wells in the areas surrounding the Hydroelectric Project reservoirs. State Water Board staff recommend the Final Surrender Application describe how PG&E proposes to mitigate potential Surrender Project impacts to groundwater wells.
50. Section 3.3.7 of the Draft Surrender Application states, “Geosyntec (2020) encountered a hard surface at three of its sample sites and attributed this to consolidation of previously deposited sediments. Stillwater Sciences et al. (2021a) noted that the U.S. Geological Survey (USGS) and Geosyntec sediment samples were from shallow cores and neither provided a comprehensive assessment of all accumulated sediment in Lake Pillsbury.” State Water Board staff recommend a comprehensive assessment of the accumulated sediments in Lake Pillsbury. Based on additional composite samples the assessment should provide the estimated topography of where the hard surface exists and the potential for the hard surface to erode during and following dam removal. Additionally, additional sediment samples should also be collected for Van Arsdale Reservoir, the Eel River Estuary, and representative sites along with Eel and Russian Rivers that may be affected by sediment deposits associated with the Surrender Project.
51. Section 3.3.7 of the Draft Surrender Application states, “Importantly, Stillwater Sciences (2021b) also stated that inadequate information exists to reasonably understand the volume and grain size distribution of gravel deposited in Lake Pillsbury because neither USGS nor Geosyntec collected samples from the upper reservoir gravel deposits (top-set deposit).” State Water Board staff recommend collection of samples from the upper reservoir gravel deposits to better inform estimates of the location, volume, and grain size of gravel deposits in Lake Pillsbury. State Water Board staff recommend PG&E consider whether upper reservoir gravel deposits can be used to facilitate restoration efforts.
52. Section 3.3.7 of the Draft Surrender Application states, “The reservoir sediment near the dam is predominantly sand and gravel based on one composite sample collected (Geosyntec 2020). It is possible finer-grained sediment deposits occur directly behind Cape Horn Dam, but sampling of the area was not possible due to access limitations and safety concerns (Geosyntec 2020).” State Water Board staff

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

recommend PG&E collect more than one sample to inform a more representative understanding of the composition of sediments behind Cape Horn Dam.

53. Section 3.3.7 of the Draft Surrender Application states, “The channel substrate of the Eel River between Cape Horn Dam and Scott Dam has become coarser than pre-dam conditions due to trapping of sediment in Lake Pillsbury and a reduction in supply of finer-grained sediment (Geosyntec 2020).” The Final Surrender Application should provide more quantitative estimates of the difference between pre-dam and current conditions of channel substrate.
54. Section 3.3.7 of the Draft Surrender Application states, “Little additional information is available to describe past and present channel geomorphic conditions (e.g., morphology and bed particle size) in the main stem and major tributaries of the Upper Main Eel River.” In order to understand and reasonably characterize the impacts of the proposed dam removal activities, State Water Board staff recommend PG&E evaluate present channel geomorphic conditions in Hydroelectric Project affected reaches.
55. Section 3.4.1.2 of the Draft Surrender Application states, “With implementation of the Construction Site Water Diversion, Dewatering, and Drawdown Plan; the drawdown of Lake Pillsbury; maintenance of construction minimum flows in the Eel River below the dam; and passage of natural flows over the dam after the spillway notch is completed, the Proposed Action would have a negligible effect on hydrology in the Eel River.” State Water Board staff disagree with this characterization and consider there to be potentially significant and unavoidable impacts to hydrology since Table 3.4.1.2-1 shows that low-level outlet releases (i.e., 400 cfs) during controlled reservoir drawdown during the low-flow season could well exceed flows under existing conditions (i.e., 3 to 320 cfs). Additionally, without quantifying the construction minimum flows and drawdown scenarios it is possible that the reservoir could be fully drained in the fall such that proposed construction minimum flows would not be able to be maintained.
56. Section 3.4.1.2 of the Draft Surrender Application states, “With these measures, the potential for increase in turbidity and suspended sediment and related water quality effects are negligible in the Eel River below Cape Horn Dam.” The Final Surrender Application should be revised to note that construction and operation of the diversion bypass channel would result in exceedances of the North Coast Basin Plan numeric and narrative turbidity and sediment water quality objectives. If the North Coast Basin water quality objectives are exceeded there would be adverse impacts to beneficial uses.
57. The North Coast Regional Water Quality Control Board’s *Basin Plan Amendment for the Policy in Support of Restoration in the North Coast Region (Order Resolution No. R1- 2015-0004)* allows restoration projects within the Basin Plan boundary to temporarily exceed water quality objectives if it shown that the project will result in long-term protection of beneficial uses and water quality impacts. In order for PG&E

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

to make that assertion that the Surrender Project would result in long-term benefits, a clear and comparable measurement of the impacts is necessary to weigh against any benefits. State Water Board staff recommend PG&E develop information that clearly compares the benefits against the short-term impacts.

58. Section 3.4.1.3 of the Draft Surrender Application lists beneficial uses. Water Boards staff note that North Coast Basin Plan beneficial uses for wetlands are not listed (i.e., WET, FLD, WQE). Where wetlands exist within the Surrender Project-affected area these beneficial uses would be potential or existing and require analysis for potential impacts.
59. Section 3.4.1.3 of the Draft Surrender Application states, “With the implementation of these mitigation measures, the impact on water temperature and water quality in the East Branch Russian River would be negligible.” State Water Board staff are concerned that diversions during reservoir drawdown of water that may be turbid and dewatering discharges into the tunnel could potentially impact Hydroelectric Project infrastructure and that turbidity might not “settle out” but instead cause North Coast Basin Plan water quality objective exceedances in the East Branch Russian River.
60. Section 3.4.1.3 of the Draft Surrender Application states, “The Construction Site Water Diversion, Dewatering, and Drawdown Plan would include a measure to manage drawdown and, if necessary, identify construction measures to release surface water in combination with the cold-water pool to reduce potential temperature effects.” The Final Surrender Application should clarify the capacity of redundant surface water diversion and release measures and what temperature criteria would be used to modify reservoir drawdown releases to reduce temperature impacts to a negligible level.
61. Section 3.4.1.4 of the Draft Surrender Application states, “This may include construction of a temporary fish station in the bypass channel to manage migration and capture of fish, or it could include modification of the construction plan.” The Final Surrender Application should clarify the flow conditions under which the bypass channel would have unconstrained fish passage and whether a temporary fish station will be constructed.
62. Section 3.4.1.4 of the Draft Surrender Application states that construction impacts to fish and aquatic resources will be negligible. State Water Board staff generally disagree since plans with mitigation measures have not yet been fully developed.
63. Section 3.4.1.4 of the Draft Surrender Application states, “It is uncertain whether upstream fish passage would be present through the Scott Dam adit tunnel immediately after (spring/summer) the reservoir is drained based on natural fluvial processes.” State Water Board staff recommend a technical analysis to confirm that unconstrained upstream fish passage and survival will be present under a

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

reasonable range of flow conditions, and if not, to include measures to address fish passage.

64. Figure 3.4.1.4.-1 and Table 3.4.1.4-2 of the Draft Surrender Application indicate that based on a Newcome Jenson suspended sediment concentrations analysis there may be significant mortality of salmonid and non-salmonid species and life stages from Lake Pillsbury through the Eel River Estuary. Draft Surrender Application section 3.4.1.19 states, “The fate of the initial pulse of sediment into the estuary, nearshore, and ocean would depend on riverine flows and tidal conditions at the time of dam removal. In addition, there is the potential that sediment from the dam removals could be deposited at the estuary mouth, reducing connectivity with the ocean.” The Draft Surrender Application also states, “Removing Scott Dam and Cape Horn Dam would have a short-term unavoidable adverse effect on suspended sediment and turbidity in the Eel River for a period of several days up to potentially several months, for which no mitigation is possible.” The Draft Surrender Application also states, “As a result, the sediment deposited in the nearshore region due to dam removal would likely be within the historic range of high-flow events, and therefore, the effects of removal on sediment loads in the nearshore areas are considered negligible.” State Water Board staff request PG&E further evaluate the species and population numbers of fish (marine and aquatic) as well as other aquatic resources (e.g., clams, lamprey, marine mammals) that may be exposed to the initial pulse of sediment released during drawdown. State Water Board staff request that PG&E provide support for its statement that mitigation in the estuary is not possible and recommend PG&E consult with resource agencies on potential measures to reduce and mitigate impacts. Additionally, State Water Board staff request PG&E provide supporting information for its statement that dam removal sediment depositions within the nearshore areas would be within the historic range of high-flow events. Please also clarify if any monitoring or adaptive management will be implemented to determine if sediments are deposited in the Humboldt Bay, and potential actions to address such an accumulation of sediment.
65. Section 3.4.1.6 of the Draft Surrender Application states, “Additionally, sediments trapped behind Scott Dam upstream may also contain seed sources that could facilitate rapid colonization within Van Arsdale Reservoir.” State Water Board staff recommend PG&E determine if there are existing seed banks in reservoir sediments prior to implementing dam removal and analyze if the reservoir sediments will provide suitable substrate for restoration to inform Surrender Project restoration actions.
66. Section 3.4.1.7 of the Draft Surrender Application states, “With these measures, the potential for excessive soil erosion, sedimentation, and related water quality impacts is considered negligible. See Section 3.4.1.3 for analysis of water quality effects.” State Water Board staff disagree that potential erosion and sedimentation impacts will be negligible. Activities such as construction and modification of access roads, removal of recreation facilities, drawdown of the reservoirs, and removal of the dams have the potential to result in the erosion and the release of sediments that exceed

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

North Coast Basin Plan water quality objectives and contribute to adverse aquatic resource impacts.

67. Section 3.4.1.7 of the Draft Surrender Application states PG&E's proposed Scott Dam Slope Stability Monitoring Plan could involve removal of "all or a portion of the landslide material prior to initiating the removal of Scott Dam" and a plan to "Stabilize the landslide with mechanical supports such as caissons." The Final Surrender Application should clarify the approximate quantity of landslide material that would be removed. Additionally, PG&E should perform a technical analysis of how drawdown will affect groundwater levels and drainage within the landslide area.
68. Section 3.4.1.7 of the Draft Surrender Application states, "Dewatering would occur within the range of flows that have historically occurred in the Eel River." State Water Board staff request that PG&E provide support for this statement, especially given the time of year when drawdown is likely to occur (summer and fall). State Water Board staff request PG&E evaluate whether the streambanks and existing landslides downstream of Scott Dam may be more susceptible to erosion during the summer and fall drawdown flows of 400 cfs, which are significantly higher than existing summer and fall flows (as shown in Table 3.4.1.2-1).
69. Section 3.4.1.8 of the Draft Surrender Application states, "Water bypassed around the work area could be conveyed in pipes and discharged in a concentrated flow that could exceed erosion thresholds, thereby causing erosion and sedimentation downstream of the discharge location." State Water Board staff recommend energy dissipation be used for all dewatering and diversion activities.
70. Section 3.4.1.8 of the Draft Surrender Application states, "It is possible that this proposed drawdown rate exceeds the rate during the 2013–2014 drought or that high flows could enter the reservoir as it is being drawn down, which could lead to more channel erosion than observed during the drought." State Water Board staff recommend additional analysis of reservoir slope stability, erosion potential, and slope sediment composition to inform if drawdown flows could destabilize reservoir slopes. Additionally, PG&E should conduct an analysis of potential slope failure risks for all structures and private properties in Surrender Project-affected areas.
71. Map 3.4.1.8-1 of the Draft Surrender Application indicates that there is also a historical landslide deposit along the mainstem Eel River. State Water Board staff request PG&E consider monitoring and managing this landslide deposit as part of the Scott Dam Slope Stability Monitoring Plan.
72. Section 3.4.1.8 of the Draft Surrender Application states, "These activities could also increase sediment concentrations at the diversion to the East Branch Russian River, potentially requiring sediment management actions to enable diversions to continue during construction." The Final Surrender Application should further define the proposed sediment management actions (e.g., dredging, water treatment). If the sediment management actions involve dredging, then the Final Surrender

Attachment A: State Water Board Staff Initial Comments on Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

Application should describe where dredging will occur and where the dredged material will be disposed.

- 73. Section 3.4.1.8 of the Draft Surrender Application states, “During construction at the Cape Horn Dam Area, the flow bypass channel would ensure that high flows would be passed downstream to the Eel River.” The Final Surrender Application should quantitatively define what qualifies as “high flows.”
- 74. Section 3.4.1.8 of the Draft Surrender Application states, “Potential increase in 100-year floodplain elevations in the Eel River could occur (Phase 2b).” State Water Board staff recommend using LiDAR technology to collect baseline topography data prior to dam removal and measure floodplain elevations. This information will help inform restoration and sediment management following dam removal. State Water Board staff recommend referring to the work of Mackey and Roering 2011, cited in the Draft Surrender Application.
- 75. Section 3.4.1.8 of the Draft Surrender Application assumes, “The volume estimate does not account for sediment accumulation since the 2015 bathymetric survey” and “estimates were not extrapolated to account for the additional sediment accumulation in Lake Pillsbury that would occur until Scott Dam removal because the increase was assumed to be small compared to the existing impounded sediment volume, and the accuracy of the analyses was only on the ‘order-of-magnitude level’.” State Water Board staff recommend PG&E make estimate to the best of its ability, the reasonable amount of additional sediment accumulation that will occur between 2015 and the time of dam removals. This estimate should be informed by the most recent (i.e., 2023) bathymetry data.
- 76. Section 3.4.1.8 of the Draft Surrender Application states, “The downstream boundary condition for the model was the Middle Fork Eel River. It is important to note that the modeling assumed that Cape Horn Dam was still in place.” State Water Board staff request the model extend to the Eel River Estuary and Pacific Ocean without Cape Horn Dam in place.
- 77. Please correct Table 3.3.2-1 to reflect the correct beneficial uses identified in the North Coast Basin Plan. Changes are underlined, bolded, and highlighted.

HU/ HA/ HSA	Hydrologic Unit/Area/ Subunit/Drainage Feature	Beneficial Uses																					
		MUN	AGR	IND	PRO	GWR	FRSH	NAV	POW	RECI	REC2	COMM	WARM	COLD	WILD	RARE	MAR	MIGR	SPWN	SHELL	EST	AQUA	CUL
111.00	Eel River Hydrologic Unit																						
111. 10	Lower Eel River Hydrologic Area																						
111. 11	Ferndale Hydrologic Subarea	E	E	E	P	E	E	E	P	E	E	E	-	E	E	E	P	E	E	E	E	P	E
111. 12	Scotia Hydrologic Subarea	E	E	E	P	E	E	E	P	E	E	E	-	E	E	E	-	E	E	-	-	P	-



State Water Resources Control Board

December 22, 2023

Tony Gigliotti
Senior Licensing Project Manager
Power Generation
12840 Bill Clark Way
Auburn, CA 95602
Sent via email: [PVSurrender@pge.com](mailto:PV Surrender@pge.com)

**Potter Valley Hydroelectric Project
Federal Energy Regulatory Commission Project No. 77
Mendocino and Lake Counties
Eel and East Branch Russian Rivers**

COMMENTS ON PACIFIC GAS AND ELECTRIC COMPANY’S INITIAL DRAFT SURRENDER APPLICATION AND CONCEPTUAL DECOMMISSIONING PLAN FOR THE POTTER VALLEY HYDROELECTRIC PROJECT

Dear Mr. Gigliotti:

On November 17, 2023, Pacific Gas and Electric Company (PG&E) released for public review an Initial Draft Surrender Application and Conceptual Decommissioning Plan (Initial Draft Surrender Application) for the Potter Valley Hydroelectric Project (Project). The Federal Energy Regulatory Commission (FERC) Project license expired on April 14, 2022. On July 8, 2022, PG&E filed with FERC a proposed schedule for submittal of a license surrender application, which FERC approved on July 29, 2022. Initial Draft Surrender Application Table 1-1 shows PG&E’s Project license surrender application development and submittal schedule and is reproduced in Table 1 below.

Table 1. PG&E’s FERC License Surrender Application Development Schedule

Process	Schedule
Distribution of Initial Draft Surrender Application	Nov 17, 2023
Deadline for Comments on Initial Draft Surrender Application	Dec 22, 2023
Initial Consultation with Resource Agencies and Tribes	Dec 2023 - Feb 2024
Distribution of Final Draft Surrender Application	Jun 3, 2024
Consultation with Resource Agencies and Tribes	Jun 2024
Deadline for Comments on Final Draft Surrender Application	Jul 18, 2024
Filing and Distribution of Final Surrender Application	Jan 29, 2025

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

State Water Resources Control Board (State Water Board) and North Coast Regional Water Quality Control Board (North Coast Regional Water Board) (collectively Water Boards) staff hereby submit the enclosed comments regarding PG&E's November 17, 2023 Initial Draft Surrender Application. Water Boards staff understand PG&E intends to include potential Project decommissioning effects, proposed license surrender conditions, a conceptual restoration plan, and associated exhibits in its Final Draft Surrender Application (anticipated to be distributed to Tribes, regulatory agencies, and other interested parties for review and comment by June 3, 2024). The enclosed comments are intended to inform PG&E's Final Draft Surrender Application for the Project. The Water Boards' comments in Attachment A are based on our initial review of the Initial Draft Surrender Application and are intended to provide helpful suggestions to PG&E on ways to expedite the Project decommissioning process. The comments highlight data and questions that the Water Boards are required to consider as part of our statutory and regulatory responsibilities, and addressing these topics early on will result in a more efficient and effective process. Water Boards staff look forward to future consultation with PG&E, as outlined in its schedule and as needed to act on a water quality certification application for the Project's license surrender when appropriate.

If you have questions for the State Water Board related to this letter, please contact Derek Wadsworth, Project Manager, by email to: Derek.Wadsworth@waterboards.ca.gov. If you have questions for the North Coast Regional Water Board related to this letter, please contact Matt St. John, Climate Specialist, by email to: Matt.St.John@waterboards.ca.gov.

Sincerely,

Derek Wadsworth
Water Resource Control Engineer
Water Quality Certification Program
Division of Water Rights

Matt St. John
Climate Specialist
North Coast Regional
Water Quality Control Board

Attachment: Attachment A: Water Boards Staff Comments on Initial Draft Surrender Application and Conceptual Decommissioning Plan for the Potter Valley Hydroelectric Project

ec: Mr. Matt Myers, Senior Environmental Scientist
California Department of Fish and Wildlife
Email: Matt.Myers@wildlife.ca.gov

Ms. Dawn Alvarez, Regional Hydro Assistance Team Program Manager
United States Forest Service
Email: Dawn.Alvarez@usda.gov

Mr. Steve Edmondson, Branch Chief
National Marine Fisheries Service
Email: Steve.Edmondson@noaa.gov

Mr. Joshua Fuller, Fisheries Biologist
National Marine Fisheries Service
Email: Joshua.Fuller@noaa.gov

Mr. Josh Boyce, Fisheries Biologist
United States Fish and Wildlife Service
Email: Josh_Boyce@fws.gov

Mr. Lewis "Bill" Whipple, President
Round Valley Indian Tribes
Email: LWhipple@council.rvit.org

Ms. Janet Walther, Senior Manager Hydro Licensing
Pacific Gas and Electric Company
Email: JMW3@pge.com

ATTACHMENT A:
**WATER BOARDS STAFF COMMENTS ON THE INITIAL DRAFT SURRENDER
APPLICATION AND CONCEPTUAL DECOMMISSIONING PLAN FOR THE POTTER
VALLEY HYDROELECTRIC PROJECT**

The following comments are provided by State Water Resources Control Board (State Water Board) and North Coast Regional Water Quality Control Board (North Coast Regional Water Board), collectively Water Boards, staff on Pacific Gas and Electric Company's (PG&E's) Initial Draft Surrender Application and Conceptual Decommissioning Plan (Initial Draft Surrender Application) for the Potter Valley Hydroelectric Project (Project).

1. Section 401 of the federal Clean Water Act (33 U.S.C. § 1341) requires any applicant for a federal license or permit for an activity that may result in any discharge to navigable waters to obtain certification from the State that the activity will comply with applicable water quality requirements, including the requirements of section 303 of the Clean Water Act (33 U.S.C. § 1313) for water quality standards and implementation plans. Clean Water Act section 401 directs that water quality certifications (certifications) shall prescribe effluent limitations and other conditions necessary to ensure compliance with the Clean Water Act and with any other appropriate requirements of state law. Other appropriate requirements of state law include the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.). Conditions of certification shall become conditions of any federal license or permit for a project subject to certification. (33 U.S.C. § 1341(d).) Decommissioning of Project facilities will result in a discharge to navigable waters and PG&E must obtain certification from the State Water Board as part of Federal Energy Regulatory Commission (FERC) license surrender. The State Water Board is the state agency responsible for issuing certification for hydropower projects in California. (Wat. Code, § 13160.)

A certification issued by the State Water Board for Project decommissioning must ensure compliance with the applicable regional and state water quality control plans. Water quality control plans designate the beneficial uses of water that are to be protected, 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 antidegradation requirements, constitute California's water quality standards for purposes of the Clean Water Act. In issuing a certification for a project, the Water Boards must ensure consistency with the designated beneficial uses of waters affected by the project, the water quality objectives developed to protect those uses, and antidegradation requirements. (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 714-719.)

The Project facilities proposed to be decommissioned are located on the Eel and East Branch Russian Rivers. The *Water Quality Control Plan for the North Coast*

Region (North Coast Basin Plan) identifies the Lake Pillsbury and Coyote Valley Hydrologic Subareas as having the following beneficial uses: municipal and domestic supply; agricultural supply; industrial service supply; groundwater recharge; freshwater replenishment; navigation; hydropower generation; water contact recreation; non-contact water recreation; commercial and sport fishing; warm and cold freshwater habitat; wildlife habitat; rare, threatened, or endangered species; migration of aquatic organisms; spawning, reproduction, and/or early development; and aquaculture. Water quality objectives identified in the North Coast Basin Plan that are applicable to Project decommissioning activities, include, but are not limited to chemical constituents, biostimulatory substances, dissolved oxygen, oil and grease, pH, sediment, settleable material, suspended material, temperature, toxicity, and turbidity.

Additionally, the Water Boards must ensure that any project is consistent with the Statement of Policy with Respect to Maintaining High Quality Waters in California (Antidegradation Policy). The Antidegradation Policy 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. § 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."

The State Water Board exercises independent authority in issuing water quality certifications and must maintain its impartiality as a decision-maker; therefore, its role in any pre-decisional activities is advisory, rather than necessarily reflective of the State Water Board's ultimate determinations. State Water Board staff will participate in this advisory role during the license surrender process and provide comments, as necessary.

Pursuant to California Code of Regulations, title 23, section 3856, a complete certification application shall include a full, technically accurate description of the entire activity (e.g., dam removal methods, timing, and sequencing) as well as a complete identification of all federal licenses/permits being sought for or applying to the proposed activity. Water Boards staff recommend the Final Draft Surrender Application include a full, technically accurate description of the proposed decommissioning activities as well as a list of all agency regulatory approvals being sought.

Finally, Water Boards staff note that some Project activities may be considered construction activities subject to the State's General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order

2009-0009-DWQ (Construction General Permit).¹ Construction activities that disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Construction General Permit. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit for discharges of storm water from construction activities requires the site owner to apply with the State, to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), and to monitor the effectiveness of the plan. The Water Boards anticipate that the Final Draft Surrender Application will inform whether enrollment and compliance with the Construction General Permit will be required or whether these activities will be addressed through the water quality certification for Project decommissioning.

2. Compliance with the California Environmental Quality Act (CEQA) is required as part of the certification process. CEQA requires the lead agency to evaluate a project's potential impacts to environmental resources as well as identify mitigation measures and alternatives to reduce project impacts. CEQA also requires public input on identified impacts and mitigation measures. CEQA documentation must analyze and evaluate the project's impacts to all relevant resources, including aquatic biological resources, special status species, and water quality.

The State Water Board is the public agency with the responsibility of issuing a certification for the Project's license surrender and decommissioning and likely will act as the CEQA lead agency for the Project license surrender and decommissioning. If the State Water Board is the CEQA lead agency, the State Water Board plans to commence the CEQA process prior to PG&E submitting a certification application. The CEQA process can occur independent of FERC's National Environmental Policy Act (NEPA) process and may, depending on its timing, inform the State Water Board of potential water quality impacts associated with Project decommissioning. Without adequate information on the Project's potential impacts to water quality from Project decommissioning, the State Water Board may be unable to issue a certification. State Water Board staff anticipate entering into a three-party memorandum of understanding with PG&E and a consultant to provide for development of the environmental documentation and other requirements necessary to comply with CEQA.

3. According to FERC's July 29, 2022 letter to PG&E, a license surrender application filed with FERC must be in accordance with section 6.1 of FERC's regulations and, in part, include a description of any environmental effects that are expected to occur

¹ Water Quality Order No. 2009-0009-DWQ and NPDES No. CAS000002, as amended by Order No. 2010-0014-DWQ, Order No. 2012-0006-DWQ, Order No. 2022-0057-DWQ, and any amendments thereto. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html Accessed on December 21, 2023.

upon license surrender and any measures that would be taken to mitigate those effects. For the purposes of informing a State Water Board certification action and CEQA analysis, Water Boards staff recommend the Final Draft Surrender Application include an assessment of the existing environment of the Project area and expected Project license surrender and decommissioning environmental effects for the following resource areas: visual resources; aquatic resources (e.g., fish populations in Project-affected waterbodies including presence, abundance, timing, and distribution; habitat for fish migration, holding, spawning, and rearing; fish passage and barriers; suspended sediment impacts to organisms, wetlands, and habitats; amphibian species and habitat; and mollusk populations); water quality constituents (e.g., suspended sediment concentrations; sediment transport; reservoir sediment contaminants, toxicity, and bioaccumulation potential; toxins from cyanobacteria; temperature; and dissolved oxygen); aquatic invasive species (e.g., pikeminnow and invasive mollusk populations); terrestrial species and habitat (e.g., revegetation potential of reservoir footprint and reservoir slope stability); hydrology and water supply (e.g., flows; flood risk; and water availability for potentially impacted legal users of water); recreation (e.g., whitewater and reservoir boating); transportation (e.g., roads and trails); hazardous materials; tribal cultural resources; and cultural resources. Water Boards staff also recommend PG&E consider the benefits and drawbacks, including to short-term and long-term downstream suspended sediment levels, associated with rapid removal or phased removal of Scott Dam as well as the timing and sequencing of removing Scott Dam and Cape Horn Dam.

According to Title 18, Code of Federal Regulations, section 6.1, every application for surrender of a license shall be executed by the licensee and filed in the same form and manner as the application for license. For a typical application for a FERC license, studies are developed in consultation with stakeholders and implemented prior to license application submittal. Water Boards staff note that no studies are proposed in support of PG&E's license surrender application. If, after PG&E assesses the existing Project area environment and expected Project license surrender and decommissioning environmental effects, PG&E or the Water Boards determine that additional data collection is necessary, Water Boards staff recommend the implementation of study plans developed in consultation with stakeholders.

Information collected through the implementation of study plans will likely be used by FERC to develop its license surrender order and fulfill its obligations under NEPA and by other agencies that must take permitting actions during the license surrender proceedings. Study plan information will assist the State Water Board in developing CEQA documentation and certification conditions to ensure compliance with the Clean Water Act and other appropriate requirements of state law.

If existing information and implementation of any future study plans do not provide sufficient information needed in connection with the issuance of certification, or the State Water Board determines that additional information is necessary to inform the

certification process, the State Water Board may request such information under the Porter-Cologne Water Quality Control Act, Water Code section 13383, or other applicable authority. To avoid unnecessary delays in the Project license surrender process, Water Boards staff strongly encourage PG&E to work collaboratively with Water Boards staff and other surrender participants to resolve differences. When possible, working collaboratively with all license surrender participants often allows for expedited resolution of issues.

4. Initial Draft Surrender Application section 1.0 states, “The Final Draft Surrender Application will include an environmental analysis (Exhibit E).” FERC’s regulations require Exhibit E to contain a report on water use and quality, which should include existing water quality, impacts to water quality, and proposed protective measures. The Water Boards are the state agencies responsible for regulation of water quality in the affected waters and the State Water Board is the state agency responsible for management of water quantity in the affected waters. Water Boards staff anticipate consulting with PG&E regarding potential effects of Project decommissioning to instream flows; and seasonal variation in water quality, including significant ions, chlorophyll *a*, nutrients, specific conductance, pH, total dissolved solids, total alkalinity, total hardness, dissolved oxygen, bacteria, toxicity, temperature, suspended sediments, turbidity and vertical illumination, and groundwater.
5. PG&E’s Initial Draft Surrender Application Table 1-1 indicates consultation with Tribes and agencies will occur from December 2023 through February 2024 and during June 2024. Water Boards staff look forward to participating in this process.
6. Section 4.0 of PG&E’s Initial Draft Surrender Application does not include a discussion of any proposed changes in land ownership following Project decommissioning. Water Boards staff request PG&E identify any anticipated land ownership changes following Project decommissioning in its Final Draft Surrender Application.
7. Section 4.1 of PG&E’s Initial Draft Surrender Application states, “The Regional Entity comprised of Sonoma County Water Agency, Mendocino County Inland Water and Power Commission, and the Round Valley Indian Tribes is responsible for modifications (construction) at Cape Horn Dam.” Water Boards staff note that the Regional Entity may require a separate federal license or permit from FERC and/or the United States Army Corps of Engineers for the construction, which may necessitate a separate certification and additional analysis to inform CEQA compliance.
8. Section 4.2.1.1 of the Initial Draft Surrender Application states, “At the downstream terminus of the tunnel, a channel (approximately 80 – 90-feet-in-length and 7.5 – 14.5-feet-deep) and concrete buttress will be constructed in the spillway apron to facilitate downstream sediment transport.” Water Boards staff request the Final Draft Surrender Application specify the quantities of materials needed to construct the channel, note if dewatering of the spillway apron is necessary, and whether the

materials used to form the channel will be removed following Project decommissioning.

9. Section 4.2.1.1 of PG&E's Initial Draft Surrender Application states, "Rubble and other material generated from the dam lowering and notching will be sidecast down the face of the spillway or placed on barges and hauled to a temporary holding area on PG&E-owned land near the dam for later placement." Water Board staff recommend clarifying what measures will be implemented to ensure sidecast material will not be discharged into waters of the state.
10. Section 4.2.1.1 of PG&E's Initial Draft Surrender Application states, "Some large clean material from the dam (e.g., no rebar protruding, greater than about 2 feet diameter) will be placed in the plunge pool area below the final river grade. Material will be large enough, and placed deep enough, so that it will not be eroded/mobilized before the accumulated bedload in the reservoir is released and has an opportunity to occupy the space." Water Boards staff recommend the Final Draft Surrender Application: discuss what material testing procedures will be implemented to confirm the material is "clean" (e.g., pH monitoring); describe appropriate best management practices that will be implemented for placement of material within waters of the state; and describe post-placement monitoring to confirm that material is not eroded/mobilized. The Final Draft Surrender Application should include information supporting the assumption that materials from the dam will be below the final river grade.
11. Section 4.2.1.1 of the Initial Draft Surrender Application includes dredging sediments near the new tunnel intake. The Final Draft Surrender Application should specify what measures, or potential measures (e.g., cofferdams, turbidity curtains), will be used to minimize contact, reduce suspended sediment and turbidity, and protect water quality in Lake Pillsbury and in downstream waterbodies during dredging activities as well as how dredged sediments will be disposed. The Final Draft Surrender Application should also identify the temporary and permanent dredge and fill impacts of Project decommissioning.
12. Section 4.2.1.1 of the Initial Draft Surrender Application states, "Following pre-established protocols related to river flow forecasting, the explosives would be detonated during or preceding an anticipated flood event of sufficient magnitude to evacuate fine sediment deposits from the reservoir (likely between December and March)." The Final Draft Surrender Application should specify when these protocols will be developed and what information is necessary to determine the magnitude of flood event sufficient to evacuate fine sediment deposits from Lake Pillsbury. Water Boards staff recommend the protocols be informed by a sediment transport model that provides an estimate of the magnitude, geographic extent, and duration of impacts to federal Endangered Species Act (ESA) or California Endangered Species Act (CESA) listed species and their habitats.

13. Section 4.2.1.1 of the Initial Draft Surrender Application states, “The bulk of the remaining materials will be stored and capped on site (e.g., along the left abutment, on the cribwall, and/or behind the remainder of the dam upstream of the pinnacle).” The Final Draft Surrender Application should specify how materials will be “capped” to avoid potential water quality impacts, assess the condition of the abutment and cribwall to retain waste dam materials, evaluate soil stability, and describe how waste material would be stored to avoid mobilization following a landslide or seismic event.
14. The Initial Draft Surrender Application does not specify when and how (e.g., plugging the needle valve intake) the needle valve and Valve Control House would be decommissioned. The Final Draft Surrender Application should specify when and how the needle valve would be decommissioned and at what point Scott Dam releases would become uncontrolled.
15. Initial Draft Surrender Application Figures 4-2 and 4-6 include an “abandon remaining portions abutment” annotation and the legend defines the orange areas as “remaining dam features.” Water Boards staff recommend the Final Draft Surrender Application include a list of remaining dam portions, a description of how all abandoned dam portions will be stabilized, and justification for leaving infrastructure in place.
16. Initial Draft Surrender Application Table 4-1 indicates River Gage E2 would be left in place or potentially transferred, and Table 4-2 indicates River Gage E11 would be left in place. The Final Draft Surrender Application should specify whether the Regional Entity or United States Geological Survey will be responsible for ongoing gage calibration and maintenance and how flows and any water quality constituents will be accurately measured and data made available during and following Project decommissioning activities (i.e., dam removals).
17. Section 4.3.1.1 of the Initial Draft Surrender Application notes sediment upstream of Cape Horn dam and dam materials will be removed and placed on adjacent PG&E land above the 100-year floodplain for future disposal. Water Boards staff recommend the Final Draft Surrender Application include robust sediment and material testing procedures for relevant contaminants (e.g., mercury, pesticides), describe how sediment spoil areas will be located to control runoff to waters of the state, and include proposed stockpile best management practices.
18. Sections 4.3.1.2 and 4.3.1.3 of the Initial Draft Surrender Application state, “Dewatering and construction sequencing is in development and will be included in the Draft Final Surrender Application.” Water Boards staff recommend dewatering plans describe where water from dewatering activities will be discharged and proposed monitoring to ensure dewatering does not violate water quality standards.

19. Section 4.3.1.1 of the Initial Draft Surrender Application notes that Cape Horn Dam removal activities include excavating and armoring a channel through the earthen embankment to pass Eel River flows downstream during construction. Water Boards staff recommend the Final Draft Surrender Application include additional information regarding the proposed channel's stability and potential for flows bypassed through the proposed channel to seep into the dewatered area or erode the existing wingwall.
20. Section 4.3.1.1 of the Initial Draft Surrender Application notes that Cape Horn Dam removal activities include removing the dam wingwall (earthen embankment portion of the dam), fish hotel, exclusion barrier, and fish ladder. Water Boards staff recommend the Final Draft Surrender Application include an evaluation of the relative impacts to fish and wildlife of the alternatives, timing, and sequencing for removal of fish passage facilities. Water Boards staff also recommend PG&E collaborate with appropriate stakeholders to ensure that Project decommissioning activities minimize impacts to fish and wildlife species, especially those that are federally ESA or CESA listed. Mitigation may be needed to offset potential impacts to fish and wildlife species (e.g., trap and haul of threatened or endangered salmonids to waterbodies unaffected by Project decommissioning activities).
21. Section 4.3.1.3 of the Initial Draft Surrender Application states, "The stability of the roughened channel bed material would be enhanced through the design process by undertaking sediment transport modeling and other measures to guide the specification for material size." Water Boards staff recommend similar sediment transport modeling also be performed for the channel created following Scott Dam removal. Water Boards staff recommend PG&E collaborate with Water Boards staff to ensure sediment transport modeling adequately assesses Project decommissioning impacts to all affected waterbodies.
22. Initial Draft Surrender Application Map 4-5 should include the criteria or flow magnitude used to define the bankfull extents and low flow channel extents.

Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project License Surrender and Decommissioning

(for discussion purposes only)

On August 2, 2023, State Water Resources Control Board (State Water Board) staff met with members of nongovernmental organizations (NGOs) to discuss the anticipated water quality certification (WQC or certification) and California Environmental Quality Act (CEQA) processes for the pending Federal Energy Regulatory Commission (FERC) license surrender and decommissioning of the Potter Valley Hydroelectric Project (Project). The NGOs shared a spreadsheet of planned studies and requested feedback from State Water Board staff on anticipated studies to support the pending surrender and decommissioning of the Project. The NGOs indicated California Department of Fish and Wildlife (CDFW) funding may be available to support such studies and a desire to begin data collection and studies as soon as possible. Pacific Gas and Electric Company (PG&E) is expected to finalize and submit its final Project license surrender and decommissioning application to FERC in January 2025; the draft application is anticipated to be distributed for public review and comment in June 2024.

State Water Board and North Coast Regional Water Quality Control Board (collectively Water Boards) staff developed the following list of studies and related information desired for the pending Project surrender and decommissioning. The purpose of providing this preliminary list of studies and information is to solicit input on information available, including a desire to identify existing information sources that may provide the information associated with a given study. The State Water Board has not initiated its CEQA process; this document serves only as an informational document to support discussion and sharing of information between interested parties.

Water Boards staff are aware there is existing Project information available (e.g., PG&E's 2017 Relicensing Pre-Application Document [PAD]) that may fulfill the study or information described in the table below. The two columns on the right-hand side of the table below indicate potential overlap with proposed studies identified by the NGOs or in PG&E's January 2018 Revised Study Plan. Additionally, Water Boards staff are aware that PG&E has posted on its Project surrender website comment letters received in response to PG&E's November 2023 Initial Draft Surrender Application and Conceptual Decommissioning Plan, including letters from state and federal agencies recommending studies that may overlap with the studies identified below. The State Water Board may modify the studies described below or request additional information as part of the anticipated Project decommissioning certification and CEQA processes – this document is only for discussion purposes.

Please note, a complete project description is required for a certification application and CEQA analysis. Staff understands the complexities of Project license surrender and decommissioning and that elements of the project description may change from those described in PG&E's November 2023 Initial Draft Surrender Application and Conceptual Decommissioning Plan. For example, additional information may be needed depending on how PG&E's license surrender application interacts with the Eel-Russian Project Authority's proposed diversion modifications. To the extent that there is uncertainty with a Project decommissioning activity (e.g., location of disposal sites, need for additional roads and road improvements, or disposition of reservoir sediments), providing the

**Preliminary List of Studies and Information to Support Potter Valley
Hydroelectric Project License Surrender and Decommissioning**
(for discussion purposes only)

range of potential activities and analyzing that range in the below studies will reduce delays associated with having to collect additional data or conduct additional analyses.

State Water Board staff are available to discuss this document and whether existing information may fulfill the study or information described in the table below. State Water Board staff has developed a spreadsheet of Eel River watershed (primarily South Fork Eel River) scientific literature related to ecosystem functions, habitat, flows, benthic macroinvertebrates, and fish that is available upon request; please email Derek Wadsworth at: Derek.Wadsworth@waterboards.ca.gov.

Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project License Surrender and Decommissioning
(for discussion purposes only)

Table 1. Preliminary List of Studies and Information to Support License Surrender and Decommissioning of the Potter Valley Hydroelectric Project.

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
Visual Resources (VR)-1 Visual Resources	<p>Assess existing information as part of CEQA to determine whether additional analysis is needed.</p> <p>Existing Information:</p> <ul style="list-style-type: none"> • PG&E's 2017 PAD 	Not Applicable (N/A)	LAND-2 – Visual Resource Assessment
Aquatic Resources (AR)-1 Fish Populations	<p>Fish population surveys to:</p> <ul style="list-style-type: none"> • Determine presence/absence, abundance, timing, and distribution of salmonids, lamprey, sturgeon?, eulachon?, sport fish?, resident reservoir and river fish, and any other fish species listed under the federal or state Endangered Species Acts (ESAs), species of concern, or of tribal importance. • Fish population surveys would include: (1) Project reservoirs; (2) upstream and downstream of Project reservoirs on the Eel River; (3) Eel River Estuary; and (4) East Branch Russian River to Lake Mendicino. <p>Existing Information:</p> <ul style="list-style-type: none"> • PG&E's 2017 PAD 	Aquatic species mitigation plan	AQ-9 – Fish Populations

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
	<ul style="list-style-type: none"> • License Article 52, Reasonable Prudent Alternative (RPA) Measure 8: Annual Summer Rearing Monitoring Results 		
AR-2 Fish Habitat	<p>Assessment of existing fish migration, holding, spawning, and rearing habitat (e.g., benthic macroinvertebrates and food availability) upstream and downstream of Project facilities. This assessment should include the seasonality, location, and extent of use of the Eel River and its associated tributaries by fish identified in AR-1. Additionally, this assessment should include the East Branch Russian River to Lake Mendicino.</p>	2-D hydraulic and habitat modeling studies	AQ-6 – Lake Pillsbury Fish Habitat
AR-3 Fish Passage and Barriers	<p>Estimation of habitat availability (e.g., bathymetry data) following Project decommissioning. Assessment to determine if there is sufficient data to quantify habitat availability upstream of Scott Dam. Any passage barriers created as a result of Project decommissioning?</p> <p>Existing Information:</p> <ul style="list-style-type: none"> • FitzGerald et al., 2021 • Cooper et al., 2020 	Salmonid reintroduction plan - including barriers study upstream of Scott Dam; fish passage assessment	AQ-7 – Fish Passage

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
AR-4 Suspended Sediment Fish Impacts	Assessment of dam removal suspended sediment concentration (SSC) impacts to fish in the Eel River (from Project facilities through the Eel River Estuary), Pacific near-shore environment, and East Branch Russian River (if the Project includes in-water work, or ongoing diversions during periods of elevated SSC).	Aquatic species mitigation plan	AQ-4 – Fluvial Processes and Geomorphology
AR-5 Sediment Habitat Impacts	Assessment of sediment, (i.e., fines and gravel) impacts to aquatic, wetland, riparian, and terrestrial habitats (e.g., availability of spawning habitat, river depths [deposition of sediment decreasing river depths], and tributary connectivity). If a sediment transport model is used to inform this study, it should assess sediment transport impacts throughout the watershed, including the Eel River Estuary.	Aquatic species mitigation plan	AQ-4 – Fluvial Processes and Geomorphology
AR-6 Mollusk Populations	Presence/absence verification for listed mollusk species.	Aquatic Mollusks	AQ-11 – Special-Status and Invasive Aquatic Mollusks
AR-7 Aquatic Invasive Species	Assessment of existing aquatic invasive species (including pikeminnow).	Pikeminnow/non-native species suppression alternatives	AQ-11 – Special-Status and Invasive Aquatic Mollusks

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
AR-8 Wetland and Riparian Habitat	Delineation/assessment of existing wetland and riparian habitat around Project reservoirs and facilities, Eel River (from Project facilities through the Eel River Estuary), and East Branch Russian River. Assessment of representative river and estuary cross-sections may be necessary, given flow changes associated with the Project. Assessment of project's impacts on existing resources.	N/A	AQ-5 – Instream Flow
AR-9 Amphibian Species and Habitat	Assessment of existing presence/absence of foothill yellow-legged frog (FYLF), western pond turtle (WPT), other species, and habitats.	Amphibian Study	AQ-10 – Special-Status Amphibians and Aquatic Reptiles,
Terrestrial Resource (TR)-1 Terrestrial Species and Habitat	Assessment of existing presence/absence of listed bats, birds, elk, other species, and habitats. Existing Information: <ul style="list-style-type: none"> • PG&E's 2009-2014 Bald Eagle Monitoring Report 	Wildlife resources; Develop an Elk Management Plan	TERR-2 – Wildlife Resources
Geology (GEO)-1 Reservoir Sediment	Assessment of remaining reservoir sediments for revegetation/restoration activities (e.g., existing seed bank presence/viability in reservoir sediments).	Vegetation Management Plan for Lake Pillsbury	N/A

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
GEO-2 Sediment Transport Model	Sediment Transport Model (to the Pacific Ocean) including: baseline existing reservoir sediment deposition; sediment stability; downstream sediment transport; and sediment export. Modeled with potential sediment export during dam removal. To accurately run this model, estimates of current deposition rates and sediment volumes in Project reservoirs are necessary. Model should assess potential for deposition affecting downstream tributaries. Depending on Pacific Ocean deposition rates and ocean currents, the model should estimate potential impacts on use of Humboldt Bay.	Sediment transport of Lake Pillsbury sediments; Sediment transport in Eel River from Scott Dam to MF Eel River; 2-D sediment routing modeling at Van Arsdale Reservoir	AQ-4 – Fluvial Processes and Geomorphology
GEO-3 Reservoir Sediment Composition	Assessment of reservoir sediment composition (e.g., fines vs. gravel) and contaminants (e.g., mercury, pesticides, nutrients). If reservoir sediments are contaminated, consider a second phase study at representative locations along the Eel River, Eel River Estuary, and ocean (including Humboldt Bay/near-shore depositional impact).	Sediment coring in Lake Pillsbury for gradation, stratigraphy, and constituents	AQ-4 – Fluvial Processes and Geomorphology

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
GEO-4 Reservoir Stability	<p>Reservoir bathymetry and slope stability analysis (e.g., landslide potential and bank sloughing) considering land uses, land ownership, and property impacts (including visual).</p> <p>Existing information:</p> <ul style="list-style-type: none"> • Mead & Hunt March 31, 2017 Technical Memo • Miller Pacific 2018 Technical Memo • Geosyntec April 1, 2020 Memo 	Sediment Management Plan for Lake Pillsbury	AQ-4 – Fluvial Processes and Geomorphology
Water Resources (WR)-1 Water Supply	<p>Assessment of Project decommissioning impacts to existing diversions, water supplies (Tribal, surface water, groundwater, emergency water for wildfires, and contracted water). The study should include current Project flows to Lake Mendicino.</p>	Groundwater study, Fire resiliency and mitigation plan	AQ-1 – Hydrology and Project Operations Modeling
WR-2 Baseline Water Quality	<p>Baseline water quality data for all affected waterbodies (Project reservoirs, major tributaries, Eel River Estuary, Pacific near-shore environment, East Branch Russian River). At a minimum, monitoring includes:</p> <ul style="list-style-type: none"> • Dissolved oxygen (24-hour cycle) • Temperature (24-hour cycle) • pH (24-hour cycle) • Turbidity • Suspended sediment concentrations • Specific conductance 	N/A	AQ-3 – Water Quality

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
	<ul style="list-style-type: none"> • Metals (e.g., iron, manganese, aluminum, mercury, arsenic) • Nutrients (e.g., nitrogen, phosphorous) • Harmful algal blooms (e.g., chlorophyll a, species composition, suspended vs. attached) <p>Existing Information:</p> <ul style="list-style-type: none"> • State Water Board’s Surface Water Ambient Monitoring Program (SWAMP) 		
WR-3 Toxicity and Bioaccumulation	Elutriate bioassays toxicity and bioaccumulation studies (if necessary, based on GEO-4 study sediment data).	N/A	N/A
WR-4 Water Flow and Temperature Models	Water temperature and flow models (pre- and post-dam removal) for the Project reservoirs, major tributaries, Eel River (including estuary), Pacific near-shore environment, East Branch Russian River, and Lake Mendocino.	Water temperature and gaging models	AQ-1 – Hydrology and Project Operations Modeling, AQ-2 – Water Temperature
WR-5 Flood Risk	Downstream flood risk including revisions to downstream FEMA inundation maps.	N/A	N/A
Recreation (REC)-1 Whitewater and Reservoir Boating	Existing whitewater and reservoir boating opportunities (i.e., flows, access).	Recreation mitigation and enhancement plan	REC-2 – Reservoir Recreation Opportunities, REC-3 – Whitewater Boating

**Preliminary List of Studies and Information to Support Potter Valley Hydroelectric Project
License Surrender and Decommissioning**
(for discussion purposes only)

Study/Information Needs Topic	Description of Information/Study	Overlap with Proposed NGOs Study?	Overlap with PG&E Proposed Relicensing Study?
REC-2 Existing Recreation Use	<p>Assessment of recreation use of Project facilities, including past surveys. Description of planned decommissioning of recreation facilities.</p> <p>Existing Information:</p> <ul style="list-style-type: none"> • PG&E's 2017 PAD – Form 80 reports 	<p>Communications and public/stakeholder/agency outreach plan</p>	<p>REC-1 – Recreation Facility Assessment</p>
LAND-1 Roads and Trails	<p>Determination of existing road and trail ownership, use, and maintenance requirements. Determine if additional roads or road improvements are needed for decommissioning.</p>	<p>N/A</p>	<p>LAND-1 – Roads and Trails Assessment</p>
Hazardous Materials (HAZ)-1	<p>Phase 1 and Phase 2 Environmental Site Assessments for Project facilities.</p>	<p>N/A</p>	<p>N/A</p>
Tribal Cultural Resources (TCR)-1	<p>Inventory of known tribal cultural resources (TCRs) and traditional cultural properties (TCPs) within Project affected areas and appropriate buffers (including Eel River below Scott Dam to Pacific Ocean).</p>	<p>N/A</p>	<p>CUL-2 – Tribal Resources</p>
Cultural Resources (CR)-1	<p>Assessment of cultural resources within the Project area (including along the Eel River downstream of Project facilities) and if Project facilities are eligible for listing.</p>	<p>N/A</p>	<p>CUL-1 – Cultural Resources</p>