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July 31, 2023

**Via Electronic Submittal (E-File)**

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Office of Energy Projects
888 First Street, N.E.
Washington, DC 20426

**RE: Potter Valley Hydroelectric Project, FERC No. 77-CA**
**2023 Long-Term Flow Regime Request Due to Restricted Storage Capacity**

Dear Secretary Bose:

This letter presents Pacific Gas and Electric Company's (PG&E) request for a long-term flow regime for PG&E's Potter Valley Project (Project), Federal Energy Regulatory Commission (FERC) No. 77. PG&E is evaluating the seismic risk at Scott Dam as part of its Dam Safety Program. Recently, PG&E dam safety engineers determined that the seismic risk may be more significant than previously understood. To reduce the potential seismic risk, PG&E has determined the radial gates at Scott Dam will remain open indefinitely, reducing the water storage capacity in Lake Pillsbury by approximately 20,000 acre-feet (af).

In a letter to PG&E dated April 12, 2023, the California Department of Water Resources, Division of Safety of Dams (DSOD), concurred with PG&E's finding and instituted a year-round operation restriction of the reservoir of Scott Dam to an elevation of 1,900 feet (PG&E datum). In a letter to PG&E dated April 28, 2023, FERC concurred with PG&E's findings of potential for seismic instability. With the dam's radial gates remaining open, water availability will be similar to drought conditions experienced in 2020 and 2021, when Lake Pillsbury's spring inflow did not reach the spillway crest elevation and the Project operated under FERC-approved flow variances.

On July 8, 2022, PG&E submitted a proposed plan and schedule for preparing and filing the surrender application and decommissioning plan for the Project. PG&E anticipates filing the surrender application and decommissioning plan by January 2025.

Given that the Project is not expected to return to historical normal operations that were the underlying basis for the license-required flows, PG&E is requesting a departure from the current license requirements from 2024 until Project Decommissioning is completed. Specifically, the proposed flow regime until Project Decommissioning would reduce East Branch Russian River (EBRR) flows in the summer and fall to proactively manage reservoir storage in a manner that protects Project facilities and minimizes potential

impacts to aquatic species in the Eel River, including salmonid species that are protected under the federal Endangered Species Act (ESA). In addition, per FERC's letters dated March 28, 2023, and April 28, 2023, PG&E has been engaged in discussions with agencies to develop this proposal to ensure license-required flows (as may be modified by FERC) can be satisfied while the spillway gates remain open indefinitely.

**Current License Requirement**

Article 52 of the Project license, which was added to the license through an amendment issued January 28, 2004, requires PG&E to implement the National Marine Fisheries Service (NMFS) Reasonable and Prudent Alternative (RPA). The RPA (license-prescribed flows) includes requirements for the minimum instream flows of the Project. It should be noted that PG&E has requested flow variances in 7 out of the last 10 years when the spillway gates were in operation, and the need for flow variances demonstrates that current license-prescribed flows will be unobtainable in nearly all years with the gates permanently inoperable and the reservoir storage restriction in place.

**Long-Term Flow Regime Request Conditions**

An outline of the longer-term variance (long-term flow regime) is proposed below and has been developed in coordination with the U.S. Fish and Wildlife Service (USFWS), NMFS, California Department of Fish and Wildlife (CDFW), and the Round Valley Indian Tribes (RVIT) (hereafter Agencies).

First, the need for the proposed Long-Term Flow Regime is expected to begin in January 2024 and extend until Project Decommissioning is completed, and the “variance period” for each year is defined as the period from May 16 until Lake Pillsbury storage exceeds 36,000-acre feet (af) after October 1 of each year.

Second, the following conditions will serve as the foundation of the long-term flow regime and encompasses NMFS recommended Interim Protective Measures (IPMs):

- Gaging Station E-2 will be reclassified as a Critical Water Year Type (WYT). In practice, the E-2 flows will be the combined releases for E-11, E-16, and Potter Valley Irrigation District, with a floor set by the minimum opening of the low-level outlet (approximately 35 cubic feet per second [cfs]).
- Gaging Station E-16 flows will initially be reclassified as a Dry WYT (25 cfs). Based on storage and water temperature projections, with PG&E and Agency coordination, flows at E-16 may be adjusted between 5 (Critical WYT – 5 cfs) and 25 cfs (Dry WYT _25 cfs) when mean daily water temperatures at E-2 exceed 16 degrees Celsius to maintain cooler water temperatures for ESA-listed salmonid species downstream of Scott Dam. Additionally, E-16 flows can also be adjusted if the Lake Pillsbury storage forecast shows a reduction is needed to preserve adequate storage through the end of the year (or prolonged dry period).

Gaging Stations E-11 and E-16 will be used to measure a target flow, rather than a minimum flow. Flows will be calculated as a 24-hour average, measured at E-11 and E-16, rather than instantaneous. This will allow for a tighter compliance buffer on minimum instream flows to conserve water.

- Gaging Station E-11 license-prescribed minimum instream flows will remain unchanged, unless modified upon mutual agreement between PG&E and the Agencies.
- Each year, the Drought Working Group (DWG) will meet once monthly beginning in May to discuss storage levels, release flow rates, water temperature profiles, release temperatures, and estimated temperature projections at E-2. Monthly meetings will continue until the reservoir exceeds 36,000 af after October 1.
- PG&E will submit monthly storage reports to FERC during the variance period.
- During the variance period, PG&E will submit monthly flow and storage reports to FERC.

Third, additional diversions may be allowed to EBRR when Lake Pillsbury is spilling, and all targeted environmental conditions (as determined by the Agencies) are satisfied in the Eel River. Diversions are limited by the bypass pipe capacity of approximately 135 cfs and using appropriate ramping rates and diversion thresholds (exemption from Section E.5 of the RPA). The Agencies will develop initial guidelines to submit to FERC by November 30, 2023, for minimum E-11 flow thresholds for spill diversions to E-16 to commence and end, as well as diversion ramping rates. PG&E may then develop an alternative E.5 diversion prescription based on Agency guidelines, which may be implemented upon Agency review and approval. These guidelines may be refined in subsequent years based on the mitigation monitoring efforts described below. PG&E will inform stakeholders of possible discretionary diversions, details of which will be included in the guidelines submitted by November 30, 2023.

Fourth, to allow for flexible management in the event of severe Lake Pillsbury storage depletions that could pose future risk to dam infrastructure stability, minimum instream flows at compliance points (including E-11 flows to the Eel River) may be further modified annually upon mutual written agreement between PG&E and the Agencies. If proposed flow regimes are agreed upon, PG&E will notify FERC within 30 days of reaching an agreement with the Agencies, or no later than May 1 of every year. If no adjustments are needed, the flows will automatically conform to the conditions outlined above. If FERC does not respond with objections within 15 days of PG&E's submittal, the proposed flow regime developed by PG&E and reviewed by the Agencies will go into effect on May 16 of each year.

Flows downstream of Scott Dam will return to the license-prescribed flows when Lake Pillsbury storage exceeds 36,000 af following October 1 of each year (i.e., end of variance period). This 36,000 af storage threshold would allow the reservoir to meet minimum flow obligations, including a possible block water release, through January of the following year in the event of extremely low inflow in early winter.

## Impacts, Interim Protective Measures, and Agency Consultation

This long-term flow-regime request details anticipated environmental effects of the proposal related to flow modifications that may be necessary to leave the spillway gates open indefinitely, avoidance and minimization measures that will be implemented, and documentation of consultation with the Agencies.

## Anticipated Biological Impacts

PG&E biologists have reviewed this long-term flow regime proposal and believe that the proposed long-term flow regime is necessary to conserve water in Lake Pillsbury to provide adequate flow releases and suitable water quality conditions for the long-term protection of Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*O. mykiss*), and coho salmon (Oncorhynchus *kisutch*) in the watershed.

### Eel River below Lake Pillsbury and Van Arsdale Reservoir

The primary ESA-listed fish species impacted by the Potter Valley Project are Chinook salmon and steelhead trout. Life stages of these species that could potentially be in the river and whose habitat conditions are influenced by project operations during the flow variance period are adult steelhead trout (pre- and post-spawn) and juvenile Chinook salmon and steelhead trout. If the variance extends beyond October, adult Chinook salmon will also be present in the mainstem Eel River. Coho are primarily found in the South Fork Eel River although a small population persists in Outlet Creek, a tributary stream to the mainstem Eel River approximately 30 river miles downstream of Cape Horn Dam. Although critical coho habitat is present in the project area, Coho have been reported only four times at Van Arsdale Fisheries Station (located at PG&E's Cape Horn dam), 47 fish in 1946/47, one fish 1984/85, one fish in 2000 and four in 2001 (NMFS report issued November 26, 2002).

Adult steelhead trout migrate into the upper Eel River watershed to spawn primarily from January through April. Under the proposed long-term flow regime, it is expected that flows in the Eel River for adult steelhead trout migration and spawning would not be reduced below the license-prescribed flows.

Juvenile Chinook salmon remain in the river for several weeks after hatching and then migrate to the ocean during spring (typically April–June), as flows decline, and water temperatures increase. Juvenile steelhead trout, which typically spend 1 or more years in the river before migrating to the ocean during late winter and spring (typically February–June), require suitable habitat conditions throughout the summer. Under the variance proposal, available spring rearing habitat in the Eel River between Scott Dam and Cape Horn Dam could be reduced after May 15, although an increase in spring flows followed by a decrease to summer levels, as prescribed by the license flows, would still occur under the variance proposal, thus providing important migration cues for downstream migrating fish.

The proposed variance would reduce minimum flows in the Eel River between Scott Dam and Cape Horn Dam to preserve storage in Lake Pillsbury. Anticipated impacts to Chinook salmon and steelhead trout would be similar to those experienced during drought conditions in 2020–2022 when the Project operated under FERC-approved temporary flow variances. These impacts include a reduced cool-water pool in the reservoir, which could cause increased water temperatures in the reach between Scott Dam and Cape Horn Dam and decreased available habitat between the dams because of lower flows and higher water temperatures. Although available summer rearing habitat for steelhead trout would be reduced under the proposed variance, minimum flows between the dams would remain above the E-2 “Critical” classification prescribed by the license. Summertime flow requirements in the Eel River below Cape Horn Dam under the proposed variance would remain unchanged from the license flows, unless modified in consultation and agreement with the Agencies.

Transitioning into fall and winter, the proposed flow variance is the prudent action, given reduced storage capacity in Lake Pillsbury and the unpredictability of future storm activity and inflow conditions. Implementation of the proposed flow variance will conserve water in Lake Pillsbury and support suitable water quality conditions for aquatic resources below Scott Dam. It will also reduce the risk of reservoir bank erosion and sloughing at low reservoir storage levels that could limit PG&E's ability to make releases at Scott Dam, which could in turn impact downstream aquatic resources (including Chinook salmon and steelhead trout) because of changes in flow, high levels of turbidity, and sedimentation.

Overall, the ability to increase winter diversions to the Russian River when Scott Dam is spilling, combined with reduced flow releases based on springtime reservoir storage, would allow PG&E to support Russian River water needs to the extent possible, and protect Project facilities that provide suitable flow and water temperatures for Eel River fisheries.

**East Branch Russian River**

The primary fish species of interest in the EBRR downstream of the powerhouse is resident rainbow trout (*O. mykiss*). Both natural origin and hatchery rainbow trout inhabit this stream reach. CDFW historically planted catchable resident rainbow trout to support the local sport fishery; however, planting activities have been reduced in recent years because of persisting drought conditions and lower flows. Under the variance, flows in the EBRR would be reduced from a Normal to either a Dry or Critical classification (25 cfs to 5 cfs), resulting in a reduction in habitat for rainbow trout and other aquatic species. In turn, this would likely result in the continuation of reduced sport fishing opportunities for the duration of the long-term flow regime.

## Interim Protective Measures

PG&E met with NMFS to discuss their recommended Interim Protective Measures (IPMs) on April 5, 2023, and April 11, 2023, and CDFW on May 31, 2023, followed by a joint Agency meeting on June 12, 2023, and July 14, 2023. In partnership with the Agencies, PG&E developed this longer-term variance approach to address the reservoir restriction and minimize or avoid impacts to ESA-listed salmonids by implementing NMFS' recommended IPMs (as described in NMFS March 16, 2022, letter to FERC) while PG&E prepares and implements the surrender application and Decommissioning Plan for the Project. Water temperature data and previous scenarios will inform this long-term variance based on Lake Pillsbury storage and inflow, escapement/abundance of Chinook salmon and steelhead, and water temperature.

Below is the outline of the IPMs PG&E will implement in coordination with the Agencies under the long-term variance as part of mitigation for the reservoir restriction:

- PG&E will complete and use the Lake Pillsbury CE-QUAL water temperature model in coordination with the Agencies to implement a flexible management approach to reservoir releases during the July through September period. The approach will support the goal of achieving cooler temperatures for ESA-listed salmonids rearing in the reach of Eel River between Scott Dam and Cape Horn Dam.
- PG&E will fund, through a partnership agreement with the Pacific States Marine Fisheries Commission (PSMFC) or mutually agreed upon equivalent, the replacement of CDFW's DIDSON device with a new ARIS system for the monitoring site located on the mainstem Eel River above the confluence with South Fork Eel River, see table 2.
- In partnership with CDFW, and RVIT, PG&E will contribute funding for sonar monitoring for up to 7 months a year at the mainstem Eel River above the confluence with the South Fork Eel River, and the Middle Fork Eel River just upstream of the confluence of the mainstem Eel River at Dos Rios. The contribution amount will be evaluated on an annual basis in coordination with the Agencies to ensure the data are available to inform Project water management decisions.
- PG&E will contribute funding for the RVIT stream gaging program to monitor flow conditions in the main stem of the Eel River and the Rice Fork above Lake Pillsbury and Tomki Creek. The contribution amount will be evaluated on an annual basis in coordination with the Agencies to ensure the data are available to inform Project water management decisions.
- This contribution also includes funding to RVIT for a temperature probe to be installed and monitored at the U.S. Geological Survey gaging station at Fort Seward or a nearby site.

PG&E, in coordination with the Agencies, will review the above mitigation measures annually to ensure the work provides information useful to Project operations. If review of mitigation measures show they are insufficient, not beneficial or unrelated to Project operations, PG&E, in coordination with the Agencies, will reevaluate the IPMs and revise

mitigation measures as needed. PG&E will inform FERC of mitigation measure changes within 30 days of agreement with the Agencies, and no later than the May 1 notification. A simplified cost table for annual funding can be found in Table 1 below. Funding will be evaluated annually at the Agency meeting and adjusted appropriately to ensure the IPMs mitigate impacts related to the reservoir storage restriction and provide valuable data for Project management. The amount of payment may be adjusted, if necessary, annually based actual increases or decreases in Salaries, Benefits, Services, Supplies, Equipment, Capital Outlay, Overhead, or Administration, which will be discussed annually during the Agency Meeting.

Table 1: Annual IPM costs beginning in 2024.

| Item | Entity | Annual Cost |
|---|---|---|
| Sonar Monitoring- mainstem Eel River below Fort Seward | CDFW/PSMFC | **$**96,894 |
| Sonar Monitoring- Middle Fork Eel River | RVIT | **$**50,300 |
| Stream Gauge Monitoring and Fort Seward water temperature monitoring | RVIT | **$**80,000 |
| CE-QUAL Reservoir model annual maintenance | PG&E/Stantec | **$**20,000 |
| **Total** | | **$247,194** |

Table 2: One-time expenditures.

| Item | Entity | Total purchase price |
|---|---|---|
| ARIS Sonar Monitoring System | CDFW | **$93,095** |

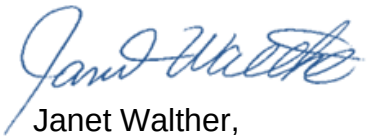
Providing Project license-required flows with the reduced reservoir level has a risk of drawdown rates that could cause destabilization of hillslopes adjacent to the dam outlet works and, in the worst case, causing Lake Pillsbury to reach critical minimum pool levels. PG&E's coordination with the Agencies during the development of this long-term flow regime proposal and the Agencies input provided to PG&E is intended to address and avoid this risk.

PG&E requests that FERC amend the license to incorporate this proposed flow regime developed in consultation with the Agencies.

Enclosed with this request is the correspondence record. Responses were received from CDFW, NMFS, USFWS, and RVIT and are provided in Enclosure 1.

If you have questions, concerns, or comments, please do not hesitate to contact Jackie Pope, license coordinator at (530) 254-4007.

Sincerely,



Janet Walther,
Senior Manager, Hydro Licensing

Enclosure:
1. Agency Responses