UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

In Re: Application for Temporary Variance of Flow Requirements

FERC Project No. P-77-320

MOTION TO INTERVENE AND COMMENTS BY FRIENDS OF THE EEL RIVER, TROUT UNLIMITED, CALIFORNIA TROUT, PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS, AND INSTITUTE FOR FISHERIES RESOURCES REGARDING PACIFIC GAS AND ELECTRIC COMPANY'S APPLICATION FOR TEMPORARY VARIANCE OF FLOW REQUIREMENTS

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INTRODUCTION

Pursuant to 18 C.F.R. § 385.214, Friends of the Eel River ("FOER"), Trout Unlimited ("TU"), California Trout ("CalTrout"), Pacific Coast Federation of Fishermen's Associations ("PCFFA"), and Institute for Fisheries Resources ("IFR") (collectively "Movant-Intervenors") hereby move to intervene and provide comments in response to the Commission's February 29, 2024, Notice of Application Accepted for Filing and Soliciting Comments, Motions to Intervene, and Protests ("Notice").¹ The Notice addresses Pacific Gas and Electric Company's ("PG&E") February 22, 2024 application for a temporary variance of flow requirements for the Potter Valley Project, No. 77 ("PVP" or "Project").²

Movant-Intervenors request that the Commission grant their motion to intervene. Movant-Intervenors further respectfully urge the Commission to approve the variance as soon as possible to protect Eel River salmon and steelhead listed under the Endangered Species Act ("ESA").³

I. MOTION TO INTERVENE

A. MOVANT-INTERVENORS' POSITION IN THIS PROCEEDING, AND THE BASIS IN LAW AND FACT FOR THAT POSITION (18 C.F.R. § 385.214(b)(1)).

For the reasons set forth below, Movant-Intervenors strongly support implementation of the variance as drafted.

To avoid unpermitted take of listed species, PG&E must implement the variance request for the Project license and reduce flows to the East Branch Russian River as needed to protect the cold-water resource in the Lake Pillsbury reservoir that is vital to ESA-listed steelhead in the Eel River as long as Scott Dam blocks access to upstream coldwater habitat. The Commission must act to facilitate this action and must not needlessly delay approval of the proposed variance.

It is also Movant-Intervenors' position that under the current Annual License, the Commission has violated and is violating section 7(a)(1) of the ESA, 16 U.S.C. § 1536(a)(1), by failing to ensure operation of the Project is consistent with the conservation of California Coastal (CC) Chinook salmon and Northern California (NC) steelhead trout listed as Threatened under the ESA. It is also Movant-Intervenors' position that the Commission violated and is violating section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), by failing to ensure operation of the Project

¹ FERC, Notice of Application Accepted for Filing and Soliciting Comments, Motions to Intervene, and Protests (FERC Docket No. P-77-320), (February 29, 2024) Doc. Accession No. 20240229-3052.

² PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA 2024 Minimum Instream Flow Variance Request Due to Restricted Storage Capacity (FERC Docket No. P-77) (February 21, 2024) Doc. Accession No. 20240222-5015. ("2024 Variance request")

³ Chinook salmon and steelhead populations in the Upper Eel River are listed as "threatened" under the federal Endangered Species Act. *See* 65 FR 36 074 (August 7, 2000) (listing Northern California steelhead); 64 FR 50, 394 (Sept. 16, 1999) (listing California Coastal Chinook).

is not likely to jeopardize the continued existence of these listed species or destroy or adversely modify their critical habitat. It is also Movant-Intervenors' position that FERC violated and is violating Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), by issuing the Annual License without initiating or reinitiating consultation with the National Marine Fisheries Service ("NMFS") regarding the Project's effects on the listed species and their designated critical habitat, and that FERC violated and is violating Section 9(a)(1)(B) of the ESA, 16 U.S.C. § 1538(a)(1)(B), by authorizing an activity that harms, kills, and otherwise causes take of listed species.

In their Request and Petition for Rehearing, Reconsideration, and/or Discretionary Action filed on May 20, 2022 ("Request for Rehearing"),⁴ Movant-Intervenors set forth the legal and factual basis for each of these positions. In sum, the Commission issued the Annual License for continued operation of the Project under terms and conditions that harm, kill, or otherwise take ESA-listed salmonid species, including by delaying and impeding their migration and spawning and causing increased predation. Issuance of the Annual License without additional protections for Eel River fisheries is not consistent with the conservation of the listed species, but rather is likely to jeopardize their continued existence and adversely modify their designated critical habitat.⁵ Because the Annual License was issued without adequate protections for Eel River fisheries, the proposed variance is necessary to reduce ongoing harm to listed species caused by operation of the Project under the Annual License.

B. MOVANT-INTERVENORS' INTERESTS WILL BE DIRECTLY AFFECTED BY THE OUTCOME OF THE PROCEEDING AND THEIR INTERVENTION IS IN THE PUBLIC INTEREST (18 C.F.R. § 385.214(b)(2)(ii) & (iii)).

All the Movant-Intervenors are non-profit organizations with an interest in protecting salmonid fishery resources in the Eel River. The Project and its operation pursuant to the terms and conditions of the annual license issued to PG&E on April 21, 2022 ("Annual License")⁶ adversely impact ESA-listed Eel River salmonids in several ways. As fully detailed in Movant-Intervenors' Request for Rehearing, the Project is harming and killing salmonids. The Commission has failed and is failing to ensure that continued operation of the Project is consistent with conservation of listed species and is not likely to jeopardize their continued existence or destroy or adversely modify their designated critical habitat.

To remedy these failures, Scott Dam must be removed to restore access to the cool headwaters of the mainstream Eel River to help restore severely depleted runs of mainstem Eel

⁴ Friends of the Eel River, Pac. Coast Fed'n of Fishermen's Ass'ns, Inst. of Fisheries Res., Trout Unlimited, Cal. Trout, Motion to Intervene and Request and Petition for Rehearing, Reconsideration, and/or Discretionary Action (May 20, 2022), Doc. Accession No. 20220520-5256.

⁵ FERC's issuance of the Annual License and denial of Movant-Intervenors' Request for Rehearing are at issue in a petition for review currently pending before the Ninth Circuit U.S. Court of Appeals. *Friends of the Eel River, et al. v. FERC* (Ninth Circuit Nos. 22-70182, 22-1589).

⁶ FERC, Notice of Authorization for Continued Project Operation (April 21, 2022), Doc. Accession No. 20220421-3034 (hereinafter "Annual License").

River salmon and steelhead. Cape Horn Dam also must be removed due to its impacts on fish passage. Both actions should be included as part of the license surrender and decommissioning of the Project. In the interim, FERC and PG&E must immediately implement interim protective measures necessary to protect listed species during the license surrender and decommissioning process.⁷

The proposed action could potentially affect Movant-Intervenors' ongoing interests in the conservation and recovery of native Eel River fisheries, as well as the public's interest in recovery of ESA-listed species. Ensuring that the Project is decommissioned, and the Eel River dams are removed expeditiously, their settings are fully restored, and full protective measures for Eel River salmon and steelhead are in place in the interim, is in both Movant-Intervenors' interest and the public interest.

Movant-Intervenors' position is not adequately represented by current parties to the proceeding. Movant-Intervenors are the only parties to have taken action against the Commission in federal court regarding the Annual License. They also offer unique perspectives regarding the resources in the Eel River watershed. The specific interests of each Petitioner are discussed below.

1. Friends of the Eel River

Friends of the Eel River is a nonprofit citizens' group that advocates for policies and practices consistent with the protection and recovery of the Wild and Scenic Eel River's outstanding resource values, particularly the salmonid species protected under the federal and California Endangered Species Acts. Founded in 1998 and headquartered in Eureka, California, FOER is a membership organization of thousands of concerned conservationists from Humboldt, Mendocino, Sonoma, Marin and other counties who are dedicated to protecting and restoring the Eel River watershed and its dependent fish and wildlife. FOER and its supporters use and enjoy the Eel River in the areas surrounding the Project and in Project-affected areas for recreational, aesthetic, and educational purposes, including but not limited to fishing, viewing, and enjoyment of the outdoors. FOER has actively participated in prior proceedings related to PG&E's license for operation of the Project's ongoing impacts to listed salmonids.

2. Trout Unlimited

Trout Unlimited is North America's leading coldwater fisheries conservation organization, dedicated to the conservation, protection and restoration of trout and salmon fisheries and their watersheds. TU's vision is that trout and salmon will be restored throughout their native range so that the next generation can enjoy healthy fisheries in their home waters. To accomplish this vision, TU works to protect, reconnect, and restore fish populations and their habitat, and to sustain this work by building a diverse movement of businesses, people, and

⁷ NMFS outlined necessary Interim Protective Measures in its March 2022 letter to FERC, *Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act Consultations on the Potter Valley Project (P-77) on the Eel River, California* (March 16, 2022) Doc. Accession No. 20220317-5064.

communities dedicated to its mission. The Eel River is one of TU's highest priorities. TU's staff and partners have invested close to \$10 million dollars in habitat restoration throughout the Eel River basin, through dozens of separate fisheries restoration projects.

3. California Trout

California Trout is a nonprofit organization that works to ensure healthy waters and resilient wild fish for a better California by driving innovative, science-based solutions that work for the diverse interests of fish, farms, commerce, and people. Founded in 1971, CalTrout uses project successes to establish precedent and influence statewide policy. CalTrout has participated actively in both formal and informal proceedings related to the Project for many years and in protecting and restoring the Eel River for over 50 years.

4. Pacific Coast Federation of Fishermen's Associations

Pacific Coast Federation of Fishermen's Associations is a California nonprofit organization and the west coast's largest trade organization for commercial fishing vessel owners and family commercial fishing operations. Collectively, PCFFA's members represent nearly 800 commercial fishing families, most of whom are small and mid-sized commercial fishing boat owners and operators. Many commercial salmon harvests along the West Coast are influenced or managed in accordance with Eel River-origin salmon run abundance levels and thus the livelihoods of PCFFA's members who rely on ocean harvest of Pacific salmon are greatly affected by the health and abundance (or lack thereof) of once numerous Eel River-origin salmon. Since its origins in 1976, PCFFA has advocated to ensure the rights of individual fishermen and to fight for the long-term survival of commercial fishing as a livelihood and way of life. PCFFA has actively participated in the Project's licensing process at various levels, including reviewing and providing written comments on major scoping, draft and final NEPA documents, and providing economic and socioeconomic information. PCFFA also opposed the continuation of the current license in its last round of FERC approvals, decades ago.

5. Institute for Fisheries Resources

The Institute for Fisheries Resources, which was originally founded by PCFFA in 1992, is separate from but still closely affiliated with PCFFA, and is a nonprofit public interest marine resources protection and conservation organization dedicated to protecting the natural resources and seafood bounty of the Pacific Ocean along the western seaboard of North America. IFR also runs an active salmon watershed protection and restoration program, and its members, most of whom are or have been commercial salmon harvesters, also have personal interests in the restoration of salmon. Along with PCFFA, IFR has actively participated in the Project's licensing process at various levels, including reviewing and providing written comments on major scoping, draft and final NEPA documents, and providing economic and socioeconomic information.

II. COMMENTS

A. PENDING DECOMMISSIONING, THE PROJECT MUST BE MANAGED TO PREVENT FURTHER HARMS TO EEL RIVER SALMON AND STEELHEAD

PG&E has owned the Project, including Scott and Cape Horn Dams on the upper mainstem Eel River, since 1930. The utility has operated the Project under federal licenses granted by FERC and its predecessor agencies.⁸ In 2019, PG&E announced it would surrender the Project license rather than pursue relicensing.⁹ The Project license expired April 14, 2022.¹⁰ Per the decommissioning schedule approved by the Commission, PG&E has stated its intent to file a License Surrender Application in June of 2025.¹¹

Absent a flow variance, PG&E is required to operate the Project to meet the flow schedule specified in the 2003 Reasonable and Prudent Alternative ("RPA"")¹² and adopted as an amendment to the Project license in 2004.¹³ However, dam safety concerns, including excess sedimentation and seismic hazards, have caused PG&E to reduce the effective storage available in the Project's Lake Pillsbury reservoir by leaving open the spillway gates atop the dam.¹⁴ Those storage limitations now make it impossible for PG&E to meet the RPA flow schedule under most circumstances. Even with modern models and forecasting, wet season precipitation and summer temperatures cannot be fully anticipated, requiring managers to maintain operational flexibility to make do with less water and higher temperatures. As PG&E summarizes the state of affairs, "current license-prescribed flows will be unobtainable in nearly all years."¹⁵

The Project also faces significant legal constraints. PG&E's operation of the Project is contrary to the Endangered Species Act because it causes unpermitted take of ESA-listed species. As the National Marine Fisheries Service advised the Commission on March 16, 2022, the 2003 Biological Opinion "provided incidental take authorization for implementing the

⁸ PG&E, Potter Valley Hydroelectric Project, FERC Project No. 77, Relicensing Pre-Application Document, (April 6. 2017), p 5-265. Doc. Accession No. 20170406-5315.

⁹ PG&E, Notice of Withdrawal of Notice of Intent to File License Application and Pre-Application Document (Jan. 25, 2019), Doc. Accession No. 20190125-5100.

¹⁰ FERC, Notice of Authorization for Continued Project Operation (April 21, 2022), Doc. Accession No. 20220421-3034.

¹¹ PG&E, Response to Request for Plan and Schedule for Surrender Application, Project No. 77-164 (July 8, 2022), Doc. Accession No. 20220708-5267.

¹² NMFS, Biological Opinion for the Proposed License Amendment for the Potter Valley Project, Project No. 77-110 (Nov. 29, 2002), Doc. Accession No. 20021202-0257 (Nov. 29, 2002). ("Biological Opinion")

¹³ Order Amending License, Project No. 77-110, 106 F.E.R.C. ¶ 61,065 (2004).

¹⁴ 2024 Variance request, p. 2

¹⁵ Ibid.

proposed action for a 20-year period, which elapses on April 14, 2022."¹⁶ The Commission's responsibility for ESA-listed species affected by the Project only increased when its incidental take permits expired. In the same letter, NMFS also concluded, significantly, that "the Project is causing take of ESA-listed salmonids in a manner not anticipated in the Opinion and from activities not described in the Opinion."¹⁷ Because they were not analyzed, such harms could not have been authorized under the Opinion. PG&E and FERC must avoid unpermitted take of ESA-listed species.

To PG&E's credit, the utility appears to be proactively moving to avoid potential harms to listed species with this and previous proposed variances. However, this progress is hampered when variances are not approved early enough in the year to preserve water storage in the Lake Pillsbury Reservoir. Although the 2023 variance was approved in October 2023, it took effect too late to preserve storage and protect Eel River steelhead from high water temperatures.

B. THE PROPOSED VARIANCE IS WARRANTED, NECESSARY, AND URGENT

The proposed variance is focused on protecting ESA-listed juvenile steelhead from potentially lethal conditions. The proposed variance states that Project operations will be directed to minimize impacts on juvenile steelhead below Scott Dam, which would otherwise result from exposure to predation from non-native pikeminnow at water temperatures at or above 18°C. This is necessary and appropriate to reduce potential unpermitted take of juvenile steelhead and provide effective reproduction and recovery of the listed species.

PG&E explains the facts on page 10 of the proposed variance. First, "the proposed variance would support improved habitat conditions for summer-rearing juvenile steelhead trout by reducing withdrawals from Lake Pillsbury, which has been found to minimize water temperature increases in late summer."¹⁸

High water temperatures alone reduce the survival and growth of juvenile steelhead. But in the inter-dam reach of the Eel River, high water temperatures are especially dangerous for juvenile steelhead because Sacramento pikeminnow introduced to the Eel River via the Project "outcompete juvenile steelhead at temperatures 20-23°C."¹⁹ Thus, it is necessary to "manage withdrawals from the reservoir to minimize the duration juvenile steelhead trout are exposed to pikeminnow at temperatures above 18°C. in late summer."²⁰

19 Ibid.

¹⁶ NMFS letter to FERC, Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act Consultations on the Potter Valley Project (P-77) on the Eel River, California (March 16, 2022) Doc. Accession No. 20220317-5064.

¹⁷ Ibid, p. 1, para 2.

¹⁸ 2024 Variance Request, p. 10.

²⁰ Ibid.

As PG&E notes, "there are limited options for mitigating high water temperature in the release from Lake Pillsbury in the late-summer and early-fall months."²¹ Reductions in releases from the Lake Pillsbury reservoir are the only tool available to moderate water temperature in the reservoir and in the water released from the reservoir. Those releases are also a key driver of water temperature increases downstream of the dam because high diversion volumes speed the mixing of cold and warm water in the reservoir, as PG&E explained in 2022:

The small storage volume present in the deeper portions of the reservoir means that there is a limited supply of cooler water that is continuously being mixed with warmer surface water via discharges from the low-level outlet. This results in gradually warming discharges (as measured at gage E-2), especially during periods of high-volume releases.

The conclusion of the PG&E water temperature analysis was that managing releases was the only tool available to moderate water temperature releases from the reservoir.²²

Flows released from Scott Dam either go down the Eel River past Cape Horn or are diverted there to the East Branch Russian River. The variance proposes no changes to flows in the Eel River below Cape Horn Dam. Movant-Intervenors concur it would not be appropriate to further reduce flow levels in the Eel River below Cape Horn Dam. Thus, the only flows in the RPA scheme that can be reduced are those scheduled for the East Branch Russian River. The amount of water diverted to the Russian River is the *only* knob that can be turned in the system to keep the Lake Pillsbury reservoir cool through the summer and early fall to protect listed species.

We note as well that all of this cold-water management is a form of mitigation, however inadequate, for the impacts of Scott Dam itself in cutting the Upper Eel River steelhead population off from the coldwater refugia otherwise available upstream.²³

C. A LOWER TRIGGER TEMPERATURE FOR FLOW CHANGES WILL WORK BETTER TO CONSERVE COLD WATER

The proposed variance differs slightly from the 2023 variance in that it would allow PG&E, in consultation with the agencies, to begin reducing diversions to the East Branch Russian River at 15° C. instead of 16° C. as proposed in 2023. This change will allow flow reductions to take effect in time to prevent irreversible increases in the temperature of the cold

²¹ Ibid, p. 3.

²² PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA 2023 Flow Variance Request Due to Limited Storage Capacity (May 22, 2023), Doc. Accession No. 20230523-5020 ("2023 Variance Request"), p. 7.

²³ Emily J. Cooper, Alison P. O'Dowd, James J. Graham, Darren W. Mierau, William J. Trush, Ross Taylor (2020) "Salmonid Habitat and Population Capacity Estimates for Steelhead Trout and Chinook Salmon Upstream of Scott Dam in the Eel River, California." Northwest Science. 94(1), 70-96; FitzGerald, Alyssa M., David A. Boughton, Joshua Fuller, Sara N. John, Benjamin T. Martin, Lee R. Harrison, and Nathan J. Mantua. (2022) "Physical and biological constraints on the capacity for life-history expression of anadromous salmonids: an Eel River, California, case study." Canadian Journal of Fisheries and Aquatic Sciences. 99(999), 1-19.

pool. While reductions in diversions under the 2022 variance did keep temperatures lower than they would otherwise have been, it is clear that intervening earlier in the calendar year, as a lower trigger point will allow, will better protect and retain a cold pool through the hot months.

D. THE COMMISSION'S FAILURE TO TIMELY APPROVE THE PROPOSED 2023 VARIANCE SHOWED THE NECESSITY OF APPROVING VARIANCES IN THE SPRING

Contrasting temperature data following FERC's earlier approval of the 2022 variance and its extremely belated approval of the proposed 2023 variance illustrates how critical it is that variances be approved and implemented in a timely manner. PG&E summarizes the events as follows:

FERC's July 27, 2022, order approving PG&E's temporary flow variance inadvertently demonstrated the potential benefit of using reservoir release management to influence water temperature in late summer. The order went into effect and reduced E-16 flows from 75 to 5 cubic feet per second (cfs), and the benefits of this reduction were readily observable. As shown on Figure 1, water temperatures at E-2 were increasing as expected based on historical water temperature data (i.e., regression-based guidance curves) until withdrawals from the reservoir were reduced under the variance. Consequently, release temperature at E-2 decreased and remained stable until withdrawals from the reservoir increased again to support a Blockwater release in late September 2022. Further analysis of flow and temperature data from 2022 indicates that the flow reduction in late July cooled release temperatures as much as 1.6 degrees Celsius (°C.) during the approximately 2-month flow-reduction period (Figure 2).²⁴

Proposed Variance Figure 1: "Average Daily Water Temperature at Gaging Station E-2 and release flow for 2022."²⁵



²⁴ 2024 Variance Request, pp. 3-4.

²⁵ Ibid, p. 4.

Proposed Variance Figure 2: "Average Daily Water Temperature at Gaging Station E-2 with 2022 trend line."²⁶



The 2022 variance demonstrated the efficacy of reducing diversions to the East Branch Russian River in maintaining the cold water pool in Lake Pillsbury reservoir. By contrast, PG&E's inability to implement the 2023 variance due to FERC's belated approval showed that, given the existing constraints on Scott Dam and storage in the Lake Pillsbury Reservoir, operating the Project to comply with RPA-specified diversions to the East Branch Russian River results in potentially lethal increases in the temperature of water released from Scott Dam in the late summer.

As PG&E notes in the proposed variance, "the delayed implementation of the 2023 variance likely contributed to a 2.5° C. warmer maximum release temperature than in 2022, despite 2023 being a much wetter year."²⁷ As Figure 4 from the variance request shows, under the 2022 variance, temperatures at the Scott Dam outlet remained at or slightly above 19° C. from late July to late September 2022. However, in 2023, as diversions to the East Branch of the Russian River continued all summer, the proposed variance's Figure 4 shows that the water released from Scott Dam rose above 19° C. in early August and did not cool back below 19° C. for more than 40 consecutive days.²⁸ For nearly a month, temperatures exceeded 21° C. at the outlet. Water released at those temperatures exacerbates the stress on juvenile steelhead below

²⁶ 2024 Variance Request, p. 5.

²⁷ Ibid, p. 6.

²⁸ Ibid, see Figures 3 and 4 pp 6-7.

the dam, rather than relieving it. Precisely the situation PG&E and the agencies had labored to prevent came to pass because the variance was implemented too late.



Proposed Variance Figure 4. "Comparison of Average Daily Water Temperatures at Station E-2."²⁹

The difference between 2022 and 2023 in outcomes for Lake Pillsbury reservoir water temperatures, and thus for Eel River steelhead, is striking. As PG&E notes, "(i)f cooler water temperatures are not maintained during mid- to late summer ... habitat conditions between the dams are likely to become increasingly stressful and potentially unsuitable for steelhead trout due (to) the presence of pikeminnow."³⁰ Thus, a failure to implement the flow changes proposed in the present variance due to a delay or failure of FERC to approve the variance is likely to contribute further to unpermitted take of ESA-listed steelhead in the upper Eel River.

²⁹ Ibid, p. 7.

³⁰ Ibid, p. 11.

E. THE COMMISSION HAS ALREADY CONSIDERED THE FUNDAMENTAL ISSUES PRESENTED BY THE VARIANCE

We encourage FERC to accelerate the review of the variance. FERC has already reviewed every substantial element of the proposed variance over previous years. Each of the other significant factors addressed above and in the proposed variance has been raised and reviewed in previous variances, including the need to protect Scott Dam's low-water outlet from sediment, and limits on Project operations necessary to protect Eel River fisheries from increased temperatures.

FERC was presented with the new seismic information and its implications for the Scott Dam spillway gates last year. In its Order approving the 2023 variance, FERC noted that:

Granting the requested temporary variance would permit PG&E to leave the gates at Scott Dam open to mitigate the increased risk until PG&E develops a more accurate assessment of the seismic risk and long-term seismic risk reduction measures.³¹

FERC previously considered proposed variances in 2022 and 2023 which adopted similar approaches to protecting the Lake Pillsbury reservoir cold pool as proposed in the current variance request. FERC explained in its July 2022 Order that a conservative approach to cold water management was warranted to protect listed species:

The conservative approach of initially releasing flows of at least 5 cfs [at E16] is more prudent at this time, because it will ensure that PG&E can continue to safely operate the project and accomplish all project purposes, including preventing jeopardy to federally-threatened species.³²

Similarly, the Commission noted in its 2023 Order that:

Further, the temporary variance would reduce the likelihood of harm to ESA-listed salmonids in the Eel River by maintaining a coldwater pool and sufficient storage levels in Lake Pillsbury.³³

FERC also has addressed issues related to reduced flows in the East Branch Russian River in prior orders:

³¹ Ibid.

³² FERC, Order Modifying and Approving Temporary Variance of Flow Requirements Under License Article 52 (July 27, 2022) Doc. Accession No. 20220727-3048, p. 18 para 41.

³³ 2023 Order, p. 11.

By initially reducing flows to the East Branch Russian River to 25 cfs and only adjusting downward as needed, the temporary variance would minimize any potential impacts to ESA-listed salmonid species in the East Branch Russian River.³⁴

We must note, however, that there are no "ESA-listed salmonid species in the East Branch Russian River."³⁵ This is one of several errors in the 2023 Order regarding fisheries.³⁶

Diversions to the East Branch Russian River were provided in the RPA to ensure flows for a small recreational fishery of planted rainbow trout in the East Branch Russian River provided by the California Department of Fish & Wildlife ("DFW"). As the Commission discussed in the July 2022 Order, the hatchery trout fishery in the East Branch Russian River is a low priority when Eel River water is at a premium.³⁷

The Commission did note that "reduced flows in the East Branch Russian River would result in reduced aquatic habitat and increased water temperatures, which would become increasingly severe in the warmer summer months, likely leading to elevated stress and possible stocked and resident rainbow trout mortality."³⁸ However, FERC concluded that adverse effects of lower flows on East Branch Russian River aquatic habitat would be temporary:

These effects, however, would be mitigated by regular future fish stocking in the Upper East Branch Russian River, which are conducted at least annually by the California DFW. Thus, continued variance implementation would result in temporary adverse effects to aquatic resources in the East Branch Russian River, but no effects to the Eel River environment.³⁹

The unique genetics of wild steelhead in the upper Eel River cannot be replaced. In its 2022 order, the Commission noted that NMFS, which has jurisdiction over both the Eel River and Russian River species, indicated that the proposed variance would "benefit the Eel River salmonids without endangering Russian River populations."⁴⁰ Russian River salmon populations under NMFS jurisdiction are not located in the East Branch Russian River, but downstream of

³⁴ Ibid.

³⁵ J. Fuller, NMFS, pers. comm., March 27, 2024.

³⁶ Regarding the upper mainstem Eel River itself, FERC's October 2023 Order discusses 'spring Chinook' and 'summer steelhead' as species affected by the variance. However, neither are present in the upper Eel River. Young fall-run Chinook salmon leave the upper basin in the spring of their first year, and thus would not be affected by the proposed variance's efforts to manage late summer and fall water temperatures. Juvenile steelhead do remain resident in the upper basin, often for one or more years, until they are ready to migrate to the Pacific. PG&E correctly describes these juvenile winter-run Northern California steelhead as 'summer-rearing' steelhead in the variance request, p. 10. The southernmost run of Eel River Summer-run steelhead were extirpated from the upper Eel by the construction of Scott Dam, but could be re-established from resident rainbow trout if Scott Dam is removed quickly. (See studies at note 23 above.)

³⁷ July 2022 Order, p. 12 para 28.

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ Ibid, p. 13 para. 33.

Coyote Dam and Lake Mendocino, which are subject to the terms of a separate Biological Opinion.

Similarly, FERC reported in its 2023 Order that:

NMFS has stated that the proposed variance is necessary to minimize and avoid adverse effects to ESA-listed salmonids and their designated critical habitat and is consistent with the intent of its 2002 Biological Opinion and some of the interim measures proposed in its March 16, 2022 letter.* We agree. The proposed variance would allow PG&E to operate Lake Pillsbury at a lower storage level necessary to reduce its seismic risk potential while ensuring that the water storage level is sufficient to maintain the coldwater pool in the reservoir and release cooler flows into the Eel River for the protection of listed salmonids. By only reducing flows to the East Branch Russian River below 25 cfs as needed, the proposed variance would also minimize impacts on listed salmonids in the Russian River.⁴¹

With respect to downstream water users in the Russian River, the Commission found:

Downstream users of the East Branch Russian River water may experience a reduction in flows and contracted water deliveries under the variance; however, we find the variance appropriately balances the protection of threatened species and the interests of downstream water users.⁴²

And finally, FERC formally concluded in 2023 that:

[A]pproval of PG&E's temporary variance request will allow it to address the potential seismic risk at the project while ensuring it has adequate water storage capacity to provide flows necessary for the protection of threatened species. The proposed variance also conserves limited water resources, minimizes the risk of operational and dam safety impacts at Lake Pillsbury, and maintains flows within the bounds of Article 52 of the license. While the Russian River watershed would receive reduced flow allocations, the proposed variance would appropriately balance competing interests by only reducing flows to the Russian River below 25 cfs as necessary for the protection of Eel River salmonids or dam safety. Finally, the proposed variance would avoid new impacts to Eel River environmental resources while minimizing any impacts to aquatic resources in the East Branch Russian River. Therefore, we approve the temporary variance from the minimum flow and maximum release requirements in Article 52, subject to conditions.⁴³

⁴¹ 2023 Order, p 13, *Footnote in original noting "PG&E May 23, 2023 Variance Request at Enclosure 1. In comments on PG&E's similar 2022 variance request, NMFS indicated that the proposed variance would benefit the Eel River salmonids without endangering Russian River populations. PG&E May 22, 2022 Variance Request at Enclosure 1."

⁴² Ibid, p. 13.

⁴³ Ibid.

None of the key factors analyzed in 2023 have changed. The proposed variance remains necessary to insure flows necessary to protect threatened species. As we noted in our comments encouraging FERC to approve the proposed 2023 variance quickly, "... given those decisions, there would appear little basis for a denial of the variance."⁴⁴

F. PG&E CANNOT ACHIEVE SCHEDULED PROJECT FLOWS

While we emphasize the recent safety-related changes in the capacity of the Lake Pillsbury reservoir behind Scott Dam, the fact that PG&E must request a variance from license terms comes as no surprise to any Project observer. Over the last decade, PG&E has repeatedly been unable to meet flows specified by the 2003 RPA.⁴⁵ Climate change has clearly begun to affect the upper Eel River, particularly in rising summer temperatures and increasing evaporative demand, as shown in the illustration below from NOAA's California-Nevada Climate Applications Program.⁴⁶ The upper Eel River basin lies in one of the areas displayed in darkest red, where "increases in evaporative demand have exceeded five inches" between 1989 and 2020.⁴⁷ However, the inability of the Project to deliver scheduled flows is also a consequence of the obsolescence and critical state of repair of several aspects of Project infrastructure.

⁴⁴ Friends of the Eel River, Pac. Coast Fed'n of Fishermen's Ass'ns, Inst. of Fisheries Res., Trout Unlimited, Cal. Trout, Motion to Intervene and Comments by Friends of the Eel River, Trout Unlimited, California Trout, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources Regarding Pacific Gas and Electric Company's Application for Temporary Variance of Flow Requirements, FERC Project No. 77-313 (July 28, 2023), Doc. Accession No. 20230728-5124.

⁴⁵ PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA 2024 Minimum Instream Flow Variance Request Due to Restricted Storage Capacity (FERC Docket No. P-77) (February 21, 2024) Doc. Accession No. 20240222-5015.

⁴⁶ See, e.g. Daniel J. McEvoy, David W. Pierce, Julie F. Kalansky, Daniel R. Cayan, John T. Abatzoglou, *Projected Changes in Reference Evapotranspiration in California and Nevada: Implications for Drought and Wildland Fire Danger 29 October 2020 https://doi.org/10.1029/2020EF001736*, noting "Two-week (Evaporative Demand Drought Index) EDDI extremes are projected to increase by 6–10 times during summer and 4–6 times during autumn by the end of the century. On multiyear timescales, the occurrence of extreme droughts ... similar to that experienced during the 2012–2016 drought across the region, is projected to increase 3–15 times by late century."

⁴⁷ Ibid. (original caption on graphic)



TOTAL CHANGE IN WATER YEAR EVAPORATIVE DEMAND 1980–2020



1. Sediment Buildup Has Already Reduced Reservoir Capacity

Multiple constraints already facing Project managers, and significant risks to Eel River fish species listed under the ESA, were reviewed and summarized in the Commission's Orders of July 27, 2022 and October 2, 2023 granting prior variances.⁴⁸

The first factor to significantly reduce the functional storage of the Lake Pillsbury reservoir was the potential for sediment piled up behind Scott Dam and along the banks of the reservoir to mobilize and block the needle valve that is the only remaining low-level outlet from

⁴⁸ July 2022 Order (see note 26 above); FERC, Order Approving Temporary Variance of Flow Requirements under License Article 52, Project No. 77-313 (Issued October 2, 2023), ("October 2023 Order"), Doc. Accession No. 20231002-3083.

the dam. ⁴⁹ Such sediment mobilization could occur due to seismic activity, landslide, or flood, in addition to the draining and drying risks PG&E has identified.

However, because the sediment cannot be economically removed and is already poised at the lip of the enclosure protecting the needle valve, the relevant question is not if, but when sediment will enter the needle valve and cause it to fail, presenting another economically and physically impractical repair. At that point, water could only be released over Scott Dam's crest, and thus only when the Lake Pillsbury reservoir was full. If the needle valve were to become covered in sediment, Scott Dam could no longer release water in a controlled manner.

This risk has led PG&E to establish a minimum reservoir level of 12,000 AF and to restrict the rate of reservoir drawdown. This limits the amount of water potentially available for release from Scott Dam, reducing both potential diversions to the Russian River and releases to the Eel River.

2. Seismic Restrictions Significantly Further Reduce Capacity

This restriction has been significantly compounded by recently revealed seismic risks. It remains unclear the extent to which Scott Dam could be expected to survive a plausible potential earthquake of magnitude 6.5 or 7 on the Bartlett Springs Fault below the Lake Pillsbury reservoir.⁵⁰ However, PG&E noted in its March 17, 2023 Dam Safety Compliance Report that "… results of the analysis suggest that the dam may become structurally unstable when subjected to seismic loading … Results of the analysis also show that the potential for seismic instability is lower when the water level in the reservoir is at or below the spillway crest elevation."⁵¹

FERC's Notice describes this operational change as follows: "(d)ue to seismic risk at Scott Dam, the licensee has *elected* to leave the spillway gates at Scott Dam open indefinitely⁵² However, an April 12, 2023 letter from the California Division of Safety of Dams (DSOD) to PG&E's Chief Dam Safety Engineer, David Ritzman, clarifies that the study is part of PG&E's "ongoing reevaluation of the dam that was initiated in response to DSOD's letter

⁴⁹ FERC, Order Approving Extension of Temporary Variance of Flow Requirements Under License Article 52 re Pacific Gas and Electric Company under P-77 (August 11, 2021), Doc. Accession No. 20210811-3072.

⁵⁰ See e.g. V.E. Langenheim, R.J. McLaughlin, and B.L. Melosh, Integrated geologic and geophysical modeling across the Bartlett Springs fault zone, northern California (USA): Implications for fault creep and regional structure Geosphere (2024) 20 (1): 129–151. https://doi.org/10.1130/GES02684.1, contrasting different estimates of maximum earthquake magnitude produced by two models of the Bartlett Springs Fault: "... the Murray et al. (2014) model yielding a maximum earthquake magnitude and horizontal slip of M 6.5–6.7 and ~1.6 m, respectively, as contrasted with the Lienkaemper et al. (2014) model predicting a maximum earthquake magnitude of M 7–7.2 and horizontal slip of 5.6–5.8 m."

⁵¹ PG&E, Potter Valley Hydroelectric Project, FERC No. 77-Cam Scott Dam, NATDAM No. CA00398, Results of Simplified Seismic Stability Analysis and Proposed Interim Risk-Reduction Measure (March 17, 2023), Doc. Accession No. 20230317-5114.

⁵² FERC, Notice of Application Accepted for Filing and Soliciting Comments, Motions to Intervene, and Protests (FERC Docket No. P-77-320)(February 29, 2024) Doc. Accession No. 20240229-3052.

dated January 22, 2021, to address potential dam safety concerns."⁵³ DSOD further notes that it has **barred** PG&E from operating Scott Dam with the gates raised:

Based on dam safety, DSOD concurs with PG&E's proposed 10-foot reservoir restriction as an interim risk reduction measure. **Therefore, DSOD is restricting the year-round operation of the reservoir of Scott Dam to Elevation 1900.00, the spillway crest**, which is 24.58 feet below the dam crest. This reservoir restriction may be revisited as conditions warrant and will remain in effect until PG&E receives DSOD's written approval authorizing a different level of reservoir storage.⁵⁴

PG&E has not just 'elected,' but is now *required* by DSOD to leave the spillway gates open. Keeping the spillway gates open reduces the capacity of the Lake Pillsbury reservoir by approximately 20,000 acre feet.⁵⁵ Because those orders concern matters of public safety and the safety of project works, FERC would be well advised to accept that the capacity of the reservoir has been permanently reduced pending Project decommissioning and dam removal. PG&E's lack of interest in operating the Project is only underscored by its March 23, 2023 announcement that it "no longer intends to replace the Potter Valley transformer."⁵⁶ At any rate, the lack of demand for flows to generate hydroelectric power simplifies the Commission's task in assessing this variance and those likely to be necessary in the future.

In summary, the combination of sediment buildup behind Scott Dam and the seismic risks noted above have reduced the storage volume in the Lake Pillsbury reservoir to the point that PG&E cannot feasibly operate the Project to satisfy the RPA flow schedule in most conditions. The present variance explains and proposes that this remaining storage volume must be managed carefully to protect the availability of cold-water in the reservoir to prevent needless harm to Eel River steelhead.

⁵³ Sharon K. Tapia, Division of Safety of Dams, April 12, 2023 letter to PG&E Vice President Jan Nimick, attention Mr. David Ritzman, Chief Dam Safety Engineer. FOER addressed these questions in further detail in Comments regarding Lake County Comments of April 3, 2023; the operation and future of Scott Dam and the Potter Valley Project, (Friday, June 30, 2023), Doc. Accession No. 20230630-5271.

⁵⁴ Ibid (emphasis added).

⁵⁵ PG&E, Potter Valley Hydroelectric Project, FERC No. 77-Cam Scott Dam, NATDAM No. CA00398, Results of Simplified Seismic Stability Analysis and Proposed Interim Risk-Reduction Measure (March 17, 2023), Doc. Accession No. 20230317-5114.

⁵⁶ PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA Potter Valley Powerhouse Transformer Replacement – Follow-up (March 22, 2023) Doc. Accession No. 20230323-5013.

G. PROJECT FACILITIES AND OPERATIONS UNDER THE ANNUAL LICENSE REMAIN THE CAUSE OF POTENTIALLY SIGNIFICANT HARMS TO ESA-LISTED AND SENSITIVE FISH SPECIES IN THE UPPER EEL RIVER

1. It Is Indisputable that the Project is Causing Take of Listed Salmonid Species

The 2003 Biological Opinion concluded that operation of the Project under the license terms granted previously by the Commission would jeopardize the survival of ESA-listed Eel River salmon and steelhead, and established the RPA to avoid jeopardy. While operation of the project under the RPA was intended to reduce impacts on Eel River fisheries, it was always very clear that some incidental take of Eel River Chinook and especially steelhead was ongoing due to Project facilities and operations; indeed, that is why incidental take coverage was necessary.⁵⁷ The harms to ESA-listed Chinook and steelhead in the Project area include, but are not limited to, limitations on their migration, constraints on reproduction, predation, and temperature impacts.⁵⁸

In the current variance request, PG&E proposes the adoption of several critically important Interim Protective Measures proposed by NMFS to reduce and mitigate the Project's impacts. FERC must approve the proposed variance to protect Eel River fisheries.

2. Key Upper Eel River Fish Populations Remain Critically Imperiled

As we noted in our comments on the proposed 2023 variance, "(a)nnual returns of Eel River steelhead indicate that the run is critically imperiled. During the winter of 2022-23 only 145 adult steelhead trout have been counted at Van Arsdale Fisheries Station at Cape Horn Dam.⁵⁹ At best, seventy females may have produced a few thousand juvenile steelhead in the interdam reach, which must now survive pikeminnow predation and high summer water temperatures."⁶⁰

This year's picture may be more encouraging, but only very slightly. By late March 2024, PG&E had reported 203 adult and 39 subadult steelhead returns to the Van Arsdale Fisheries

⁵⁷ Biological Opinion.

⁵⁸ Ibid. See also NMFS letter to FERC, Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act Consultations on the Potter Valley Project (P-77) on the Eel River, California (March 16, 2022) Doc. Accession No. 20220317-5064, and FOER, Potter Valley Project P-77; Apparent violations of license conditions at Cape Horn Dam fish ladder; Potential take of listed species; "Allegations of substandard fishway maintenance" (August 28, 2019), Doc. Accession No. 20190903-5223.

⁵⁹ PG&E, Potter Valley Hydroelectric Project, FERC No. 77-CA 2023 Flow Variance Request Due to Limited Storage Capacity (May 22, 2023) Doc. Accession No. 20230523-5020, at p.8, para 3.

⁶⁰ 2023 Variance Comments.

Station.⁶¹ By contrast, NMFS' 2016 Recovery Plan for steelhead specifies a target of 6,400 adult spawners for the 'essential' Upper Mainstem Eel River population of winter-run steelhead.⁶²

H. RESPONSE TO POTTER VALLEY IRRIGATION DISTRICT COMMENTS

The Potter Valley Irrigation District ("PVID") "urges FERC to deny PG&E's Variance request which would immediately, and unnecessarily, reduce flows at E-16 to a Dry Year Classification and instead, in consultation with the DWG, base any flow reductions on more detailed and updated predictions of Lake Pillsbury storage levels as conditions warrant."⁶³

As explained above, PG&E has demonstrated that the flow reductions proposed in the variance are necessary. This year's proposal builds on clear evidence that reducing diversions to the Russian River lowered temperatures in 2022, and that failing to timely reduce diversions drove temperature increases in 2023 that likely harmed juvenile steelhead. Because flows to the Eel River must not be reduced, diversions to the Russian River must be.

1. Reductions in Lake Pillsbury Reservoir Storage and Release Rate Management Also Apply to PG&E's Diversion to PVID Under Contract

As PVID notes in its comment letter, "PVID contract deliveries at E-16 will remain unchanged for the season and PVID will voluntarily continue to request up to the contracted 50 cfs on a demand schedule."⁶⁴

PG&E has established that higher summer diversions to the East Branch Russian River from Lake Pillsbury reservoir result in higher-temperature water releases to the Eel River in late summer and early fall. PG&E has shown, and FERC has acknowledged, that such releases should be avoided to protect juvenile steelhead in the Eel below Scott Dam from the risk of exposure to predatory pikeminnow under temperature conditions that disfavor salmonids.

However, PG&E has not yet addressed the possibility of reducing diversions to the Potter Valley Irrigation District (PVID) under its contract with the district. Like PG&E's other actions concerning the Project, diversions to PVID are subject to the limits imposed by the federal Endangered Species Act. We strongly encourage FERC and PG&E to consider further reducing diversions to the East Branch of the Russian River, even if it means reducing deliveries to PVID, in order to maintain the cold pool behind Scott Dam.

⁶¹ Andrew Anderson PG&E Senior Aquatic Biologist, pers. comm., March 24, 2024.

⁶² National Marine Fisheries Service. 2016. Final Coastal Multispecies Recovery Plan. National Marine Fisheries Service, West Coast Region, Santa Rosa, California, Volume III, Northern California Steelhead, p. 29.

⁶³ Potter Valley Irrigation District MOTION TO INTERVENE AND COMMENTS for Potter valley Project No. 77-320 by the Potter Valley Irrigation District in response to the February 22, 2024 filing by Pacific Gas and Electric Company titled Potter Valley Hydroelectric Project, FERC No. 77-CA 2024 Minimum Instream Flow Variance Request Due to Restricted Storage Capacity. (March 20, 2024) Doc. Accession No. 20240322-5105.

⁶⁴ Ibid.

As PG&E has demonstrated and the Commission has acknowledged, the diminished capacity of the reservoir means that regardless of the nominal water year type, the Project is now only capable of diverting flows to the East Branch Russian River equivalent to what it used to produce in dry years. However, Russian River water users should be aware that when real drought does return, more dramatic reductions may be necessary to protect storage in the Lake Pillsbury Reservoir.

2. PVID Urges FERC to Act Beyond Its Jurisdiction to Benefit Irrigators at The Expense of Eel River Fisheries

Although PVID admits water rights are "technically outside the purview of FERC," the district nonetheless complains about the purported impacts of the proposed variance on holders of appropriative water rights down the Russian River.⁶⁵ But those rights are to water abandoned into the Russian River watershed after PG&E's diversion for hydroelectric use. Holders of appropriative rights in water diverted from another watershed and then abandoned have no independent right to demand that the diversion continue. Appropriative rights holders in the Russian River cannot demand that PG&E continue diversions from the Eel River to satisfy their water rights now that PG&E is not generating (and will never again generate) hydropower, much less that the company do so in a way that would violate the Endangered Species Act.

PVID also objects to PG&E's characterization of the contract between the two entities, writing that:

(w)hile outside of this License Variance proposal a statement made by PG&E in the variance request regarding our contract with PG&E is of concern. On Page 9 of the February 21, 2024 Variance Request PG&E states that "reductions to PVID contract water deliveries are at PG&E's discretion." This is unequivocally false.

PVID is not correct. PG&E does have discretion to reduce contract deliveries to the District. PG&E's contract with PVID in no way obligates the company to deliver water to PVID in contravention of Commission direction, or in violation of federal law, or even if it suffers equipment failure. PG&E clearly retains the discretion to reduce flows to the Russian River as necessary to comply with FERC orders, to protect Project infrastructure, and to avoid unpermitted take of ESA-listed species.

III. CONCLUSION

Today, the Project is no longer a functioning hydroelectric project. PG&E has announced plans to remove both Scott and Cape Horn dams as soon as possible. Until Scott Dam is removed, management of the Project must focus primarily on maintaining a cold pool in the Lake Pillsbury reservoir through the summer months.

⁶⁵ Ibid at p. 3.

The proposed variance is vital to protecting critically imperiled Eel River fisheries pending removal of the PVP dams and facilities. We strongly encourage FERC to expedite the approval of the variance. In addition, given that none of the conditions that make this variance necessary are likely to change, we strongly encourage the Commission to work promptly toward a longer-term resolution that will effectively protect Eel River fisheries throughout the decommissioning process without expending resources or incurring the risks of annual variances.

As explained above, where the competing species protection and water supply purposes of the RPA have come into tension under the changed circumstances confronting the Project, and especially where there is no incidental take coverage for Project facilities and operations, both PG&E and FERC have joint and several responsibilities to ensure Project operations do not harm listed species. PG&E's part here is to propose a timely and effective variance and prepare to implement it. FERC's is to approve it without delay.

DATED: April 1, 2024

FRIENDS OF THE EEL RIVER

<u>/s/ Alicia Hamann</u> Alicia Hamann Executive Director, Friends of the Eel River

CALIFORNIA TROUT

<u>/s/ Walter "Redgie" Collins</u> Walter "Redgie" Collins Legal and Policy Director, California Trout

TROUT UNLIMITED

<u>/s/ Brian J. Johnson</u> Brian J. Johnson California Director, California Trout

PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOCIATIONS AND INSTITUTE FOR FISHERIES RESOURCES

/s/ Glen Spain

Glen Spain Northwest Regional Director, PCFFA

UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

In Re: Application for Temporary Variance of Flow Requirements

FERC Project No. P-77-320

CERTIFICATE OF SERVICE

I hereby certify that I have this day served, by first class mail or electronic mail, a

Motion to Intervene and Comments by Friends Of The Eel River, Trout Unlimited,

California Trout, Pacific Coast Federation Of Fishermen's Associations, And Institute For

Fisheries Resources Regarding Pacific Gas and Electric Company's Application for

Temporary Variance of Flow Requirements, FERC Project P-77-320, on each person

designated on the official P-77-000 Service List compiled by the Commission in the abovecaptioned proceedings.

Dated this 1st day of April, 2024.

<u>/s/ Joseph Griffin</u> Joseph Griffin Sr. Litigation Assistant Earthjustice