

1 **BEFORE THE PUBLIC UTILITIES COMMISSION**
2 **OF THE STATE OF CALIFORNIA**

3 Application of Pacific Gas and Electric
4 Company for Authority, Among Other Things,
5 to Increase Rates and Charges for Electric and
6 Gas Service Effective on January 1, 2023.
(U39M)

A.21-06-021
(Filed June 30, 2021)

Exhibit CalTrout 1

7
8 **TESTIMONY OF BRIAN J. JOHNSON**

9 On behalf of Intervenors California Trout, Inc., Friends of the Eel River, Inc., and Trout
10 Unlimited, Inc.

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8 **Relevant Experience**

9 I, Brian J. Johnson, provide this written testimony and am prepared to validate it as my true and
10 accurate testimony at the hearing on this matter. I am the California Director for Trout Unlimited, where
11 I have worked since 2005. I have been personally involved in the Kilarc-Cow Creek, Klamath River
12 Project, and Eel River (Potter Valley Project) license, license surrender, and decommissioning
13 proceedings through the time period covering the events in this testimony.
14

15 Trout Unlimited is a signatory to a 2005 settlement agreement with Pacific Gas & Electric
16 (PG&E) and others under which PG&E agreed not to relicense the Kilarc-Cow Creek project (Federal
17 Energy Regulatory Commission (FERC) licensed project No. P-606).¹ This led to PG&E's decision to
18 decommission the project by removing the channel spanning dams associated with the project while
19 retaining only a few ancillary structures, as described below. I have been participating in those
20 regulatory proceedings since late 2005.
21

22 Trout Unlimited is a signatory to the Klamath Hydroelectric Settlement Agreement (KHSA) for
23 the Klamath Project (FERC P-2082 and P-14803), and I have been participating directly in those project
24 proceedings since 2006. I was one of the core negotiators for the 2016 amendments to the KHSA under
25 which the parties decided to surrender and decommission the project by removing four dams on the
26
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28

¹ See FERC Office of Energy Projects, [20110816-4004](#), p 24, August 16, 2011.

1 Klamath River with approval by FERC, and I signed the agreement on behalf of Trout Unlimited.² Other
2 signatories include PacifiCorp (the current owner of the dams), the Yurok and Karuk Tribes, the states
3 of California and Oregon, the Pacific Coast Federation of Fishermen's Associations and Institute for
4 Fisheries Resources (IFR), California Trout, and four other conservation groups.

5 I am also the Vice President of the Board of the Klamath River Renewal Corporation (KRRC).
6 KRRC was established by the KHSA parties to manage the license surrender and decommissioning
7 program on their behalf, and then to oversee removal of the four dams. Since 2016, I have been
8 intimately involved in navigating the FERC license surrender and decommissioning process.
9

10 **Summary of Testimony**

11 On May 11, 2022, FERC ordered PG&E to prepare a license surrender and decommissioning
12 plan to dispose of the Potter Valley Project (FERC P-77) on the Eel River.³ This is necessary under
13 FERC rules because PG&E declined to relicense the project and no potential buyers filed a timely
14 application to take over the project and license.⁴ Based on its filings in this rate proceeding, PG&E
15 planned for the license surrender process to take more than 10 years, with significant expenditures
16 beginning only in 2035.⁵

17
18 Neither the Federal Power Act nor FERC regulations require such lengthy procedures for
19 decommissioning and surrender.⁶ Such proceedings occur with two phases. First, the licensee prepares a
20 Decommissioning Plan and License Surrender Application. This phase has no set duration, except that it
21 includes consultation with state and federal resource agencies, Indian Tribes, and interested non-
22 governmental organizational stakeholders, with at least a 30-day comment period.⁷ Then, the
23

24
25 ² Prior to 2016, the parties hoped to remove the dams via special Congressional legislation.

26 ³ FERC 20220511-3004, May 11, 2022, attached hereto as Exhibit CalTrout 1-1.

27 ⁴ *Id.*; see 18 CFR 6.1 and 6.2 of FERC's regulations.

28 ⁵ See PG&E-5 at 8-12; PG&E-5 WP at 8-2.

⁶ See 18 CFR section 6.2; <https://www.ferc.gov/administration-and-compliance/how-surrender-license-or-exemption>.

⁷ Exhibit CalTrout 1-1.

1 Commission reviews and acts on the License Surrender Application and Decommissioning Plan, a
2 process that includes an environmental review under the National Environmental Policy Act and under
3 which FERC may require mitigation measures to protect the public interest. For projects such as Potter
4 Valley that occupy federal lands, the licensee will be required to restore the lands to a condition
5 satisfactory to the Department having supervision over such lands.⁸ This phase also has no set duration,
6 except that NEPA will require at least a 45 day comment period.⁹ The License Surrender Order must be
7 accompanied by various other permits; those can be prepared and secured concurrently with the NEPA
8 and License Surrender Application review, as shown below in the Klamath Project section. Kilarc-Cow
9 Creek and Klamath are illustrative cases, being the two major license surrender proceedings leading to
10 dam removal and decommissioning in recent years in Northern California.

11
12 Based on my personal experience and a review of the record of the license surrender and
13 decommissioning proceedings for the Kilarc-Cow Creek Project and Klamath Project, I estimate that the
14 license surrender and decommissioning proceeding for the Potter Valley Project (P-77) can be
15 accomplished in 4 years and should under no circumstances exceed 6 years. This estimate is measured
16 from a starting time of May 11, 2022, when FERC ordered PG&E to prepare a license surrender and
17 decommissioning plan, to the time FERC will issue a License Surrender Order and approve the
18 decommissioning plan to dispose of the project facilities.¹⁰ Thus, PG&E should be in a position to begin
19 major expenditures on decommissioning the Potter Valley Project much earlier than 2035—most likely
20 between 2026 and 2028.

21
22
23 I make this estimate with my understanding of the steps required by FERC regulations and
24 practices and by calculating the time taken by PG&E for Kilarc-Cow Creek and by the Klamath River
25
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27 ⁸ 18 CFR § 6.2.

28 ⁹ 23 CFR § 771.123(k).

¹⁰ Exhibit CalTrout 1-1.

1 Renewal Corporation and others for Klamath, subtracting events and circumstances not relevant to the
2 Potter Valley Project. The relevant milestones for each project are set forth below.

3 **Kilarc-Cow Creek Project Decommissioning**

4 On March 23, 2007, PG&E filed a Proposed License Surrender Application Schedule for the
5 Kilarc-Cow Creek project.¹¹ This was necessary because in the 2005 Settlement Agreement PG&E
6 determined not to relicense the project, and because, while one entity filed a notice of intent to pursue
7 the license, they did not timely file an application to take over the license.¹² A very similar process just
8 concluded for the Potter Valley Project, where PG&E has until July 11 to file its proposed License
9 Surrender schedule, so the Potter Valley Project stands today roughly where Kilarc-Cow Creek did in
10 March, 2007.
11

12 On March 23, 2007, PG&E prepared a proposed schedule.¹³ On June 21, 2007, FERC approved
13 the schedule and ordered PG&E to prepare a License Surrender Application, including a
14 decommissioning plan, by March, 2009.¹⁴ Between this date and March 2009, PG&E prepared its
15 decommissioning plan and held public meetings to solicit feedback from stakeholders.
16

17 On March 13, 2009, as scheduled, PG&E filed its License Surrender Application and
18 Decommissioning Plan.¹⁵

19 On June 22, 2010, FERC issued its Draft Environmental Impact Statement (EIS) analyzing the
20 decommissioning plan and providing staff recommendations to adopt the plan with modifications.¹⁶
21

22 On August 16, 2011, FERC issued its Final EIS.¹⁷ FERC staff recommended approval of
23 PG&E's proposed decommissioning plan with certain minor staff amendments. PG&E proposed to
24

25 ¹¹ PG&E, 20070323-5045, March 23, 2007.

26 ¹² *Id.*

27 ¹³ *Id.*

28 ¹⁴ FERC Office of Energy Projects, 20070621-3009, June 21, 2007.

¹⁵ PG&E, 20090312-5107, March 12, 2009.

¹⁶ FERC Office of Energy Projects, 20100622-4001, p 261-63, June 22, 2010.

¹⁷ FERC Office of Energy Projects, 20110816-4004, August 16, 2011.

1 “surrender the license for operation of the Kilarc-Cow Creek Project and to decommission and remove
2 or modify several project features, including: (1) remove diversion dams and allow for free passage of
3 fish and sediment; (2) leave in place some diversion dam abutments and foundations to protect stream
4 banks and provide grade control,” and to remove most equipment and roads.¹⁸

5
6 But for circumstances that existed for Kilarc-Cow Creek that are not relevant to the Potter Valley
7 Project (described in the remainder of this section), FERC could have issued its License Surrender Order
8 and approval of the decommissioning plan later that year, a little more than four and a half years from
9 the FERC notice. If PG&E had filed its License Surrender Application and proposed decommissioning
10 plan within one year (as in Klamath, below) rather than two, the project could have taken 4 years.

11 Subsequent to the Final EIS, FERC was unable to issue the License Surrender Order because the
12 State of California saw delays to processing its Water Quality Certification under the Clean Water Act,
13 section 401.¹⁹ This will not happen again because the law has been clarified since 2011 to confirm that
14 states must issue section 401 certifications within one year of their filing or risk having FERC consider
15 the opportunity waived. Indeed, for Kilarc-Cow Creek, FERC concluded that the state had waived its
16 right to issue a 401 certification because of its delay.²⁰

17
18 The Klamath Project proceedings also demonstrate that the State of California is capable of
19 issuing its section 401 water quality certification *before* the FERC final EIS and License Surrender
20 Order. The state was motivated to do so because dam removal on the Klamath was so important to
21 fisheries recovery and to Tribes in the basin. Potter Valley is similarly important to the state for river
22 restoration and tribal justice. Potter Valley is similar to Klamath in another way, namely that a great deal
23 of information has been developed prior to the start of license surrender for engineering and cost
24

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¹⁸ *Id.* [FEIS 2011]. FEIS p 24

28 ¹⁹ FERC Office of Energy Projects, 20211203-3006, p 22-23, December 3, 2021

²⁰ *Id.*

1 estimates of dam removal.²¹ Based on my experience with the Klamath Project and the Potter Valley
2 Project, I expect the state to manage the water quality certification for Potter Valley as it did for
3 Klamath, before the License Surrender Order.

4 **Klamath Project Decommissioning**

5 In April, 2016, the Klamath Hydropower Settlement Agreement (KHSA) parties determined to
6 remove four PacifiCorp-owned FERC-licensed hydroelectric dams on the Klamath River through the
7 traditional FERC-managed license surrender and decommissioning process, rather than through special
8 Congressional authorizations.²² This moment is the Klamath equivalent to PG&E's obligation to prepare
9 a license surrender plan for Potter Valley by July 11, 2022 and on March 23, 2007 for Kilarc-Cow
10 Creek. Our experience with the Klamath Project demonstrates that even exceptionally complex license
11 surrender and decommissioning proceedings can be completed generally as planned and in no more than
12 4-6 years.
13

14 For the Klamath River project, unlike Kilarc-Cow Creek or Potter Valley, the KHSA signatories
15 determined to create a new entity to manage dam removal, the Klamath River Renewal Corporation
16 (KRRC), and to transfer ownership of the facilities and FERC license to that entity.²³ This approach
17 added a license transfer process and associated approvals from FERC that will be unnecessary for
18 PG&E on the Potter Valley project. Despite this added procedure, the KHSA parties expect FERC's
19 Final License Surrender Order approving the decommissioning plan—and all other necessary permits—
20 later this year, slightly more than 6 years from the creation of the KRRC to manage the project pursuant
21 to the KHSA. KRRC will be able to issue a start work order to its dam removal contractors almost
22 immediately thereafter.
23
24

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26
27 ²¹ See Testimony of Darren Mierau.

28 ²² Klamath Hydroelectric Settlement Agreement, April 18, 2016.

²³ *Id.* at p. 3, 32-33, 61.

1 In 2016, the KHSA parties intended for the process to take less than four years and for dam
2 removal to begin in 2020.²⁴ I believe that this schedule was realistic, but for the fact that the License
3 Transfer Application took longer for FERC to process than anticipated. Aside from FERC processing
4 delays associated with license transfer, the program has gone as expected and is on schedule to deliver
5 the benefits expected by the parties.

6
7 The following paragraphs summarize Klamath Project removal program key dates.

8 Just five months after the Amended KHSA, on September 23, 2016, KRRC filed its License
9 Surrender Application to begin decommissioning the project with FERC.²⁵

10 Also on September 23, 2016, KRRC and PacifiCorp jointly filed a License Transfer Application
11 to transfer the license from PacifiCorp to KRRC to remove the dams.²⁶ In both filings, the parties asked
12 FERC to process the License Transfer Application before the License Surrender Application.²⁷

13
14 The License Transfer Application was approved consistent with the KHSA, but it proceeded
15 more slowly than I or the other signatories hoped.²⁸ In April, 2017, FERC issued an Additional
16 Information Request to PacifiCorp and KRRC.²⁹ In June, 2017, KRRC responded.³⁰ In October, 2017,
17 FERC did three things: it issued its Notice of Application soliciting interventions³¹; it ordered KRRC to
18 convene a Board of Consultants to help evaluate the project³²; and it issued another Additional
19 Information Request.³³

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²⁴ *Id.* at p. 35.

23 ²⁵ KRRC, 20160923-5370, Sept. 23, 2016.

24 ²⁶ PacifiCorp/KRRC, 20160923-5367, Sept. 23, 2016.

25 ²⁷ KRRC, 20160923-5370, p 3, Sept. 23, 2016 (“KRRC respectfully requests that the Commission act on
26 this application after it submits notice, pursuant to Amended KHSA section 7.1.4, that it is ready to
27 accept license transfer.”).

28 ²⁸ FERC Order, 175 FERC ¶ 61,236, 20210617-3060, June 17, 2021

29 FERC Office of Energy Projects Request for Additional Information, April 24, 2017.

30 PacifiCorp/KRRC, 20170623-5103 June 23, 2017.

31 FERC Secretary of the Commission, 20171005-3019, Oct 05, 2017.

32 FERC Office of Energy Projects, 20171006-3001, Oct. 05, 2017.

33 FERC Office of Energy Projects, 20171005-3005, Oct. 05, 2017.

1 In March, 2018, FERC issued an order on the License Transfer Application deferring action on
2 transfer, stating that it needed more information on KRRC's financial capabilities to accept transfer,
3 which FERC expected to come with the results of the independent review of the information provided in
4 response to the Additional Information Requests by the Board of Consultants.³⁴

5
6 The Board of Consultants process continued for the remainder of 2018 through 2019. The Board
7 of Consultants Letter Report No. 1 and KRRC Response Letter were filed December 12, 2018.³⁵ KRRC
8 responded further to BOC recommendations July 29, 2019³⁶ and February 28, 2020³⁷.

9 In July, 2020, FERC issued an order approving License Transfer to KRRC for dam removal, but
10 requiring that PacifiCorp also remain on the license.³⁸ On November 17, 2020, the States of California
11 and Oregon, together with KRRC and PacifiCorp, and the Yurok and Karuk Tribes, entered into an
12 implementation MOU agreeing that the two states could be co-licensees with KRRC, and making other
13 arrangements.³⁹ On January 13, 2021, KRRC, PacifiCorp, and the States filed a License Transfer
14 Application to transfer the license from PacifiCorp to KRRC and the states, and to remove PacifiCorp
15 from the license.⁴⁰ FERC approved that application on June 17, 2021.⁴¹

16
17 The November 17, 2020, MOU allowed FERC and the parties to resume processing the License
18 Surrender Application and License Transfer Application, and things have moved quickly since.

19 On the same day, November 17, 2020, KRRC filed an amended License Surrender Application
20 for decommissioning and removal of the four dams.⁴² On February 26, 2021, KRRC filed a
21

22
23 ³⁴ FERC Order, 162 FERC ¶ 61,236, [20180315-3093](#), March 15, 2018; FERC Order, 175 FERC ¶
24 61,136, p 3-4, [20210617-3060](#), June 17, 2021.

³⁵ KRRC, [20181212-5147](#), Dec. 12, 2018.

³⁶ KRRC, [20190729-5039](#), July 29, 2019.

³⁷ KRRC, [20200228-5326](#), Feb. 28, 2020.

³⁸ FERC Order, 172 FERC ¶ 61,062, [20200716-3051](#), July 16, 2020.

³⁹ KRRC, [20201117-5191](#), Exhibit D-10, Nov. 17, 2020.

⁴⁰ PacifiCorp, [20210113-5161](#), Jan. 13, 2021.

⁴¹ FERC Order, 175 FERC ¶ 61,136, [20210617-3060](#), June 17, 2021.

⁴² KRRC, [20201117-5191](#), Nov. 17, 2020.

1 Supplemental License Surrender Application that included 16 different Management Plans and a 100%
2 basis of engineering design report.⁴³ In March, 2021, KRRC filed draft Biological Assessments and
3 “Section 106” consultations for Endangered Species Act and Historic Preservation Act compliance.⁴⁴ In
4 December 2021⁴⁵ and May 2022,⁴⁶ KRRC submitted final Management Plans. The ESA process
5 concluded with a Biological Opinion by National Marine Fisheries Service on December 20, 2021,⁴⁷ and
6 a Biological Opinion by U.S. Fish & Wildlife Services on December 22, 2021.⁴⁸ KRRC secured not one,
7 but two, Clean Water Act section 401 water quality certifications from the states of Oregon⁴⁹ and
8 California,⁵⁰ including the state’s California Environmental Quality Act Environmental Impact Report.

9
10 On February 25, 2022, FERC issued its Draft EIS recommending approval of the project with
11 minor modifications.⁵¹ The comment period closed in April, 2022. FERC has stated its intent to issue a
12 Final EIS in September, 2022, and the project has seen no delays to the schedule since then; the issuance
13 of the Draft EIS and comment deadline proceeded as scheduled.⁵²

14
15 The KRRC board expects to have the Final License Surrender Order and all necessary permits
16 for the project to begin by the end of this calendar year 2022. Since KRRC also has final engineering
17 designs and contracts in place for the dam removal contractor, disposal of the facilities will be able to
18 begin immediately.

19 By this schedule, the complex Klamath Project license surrender and decommissioning process
20 will have taken barely more than 6 years from the decision to decommission through the FERC process
21

22
23 ⁴³ KRRC, [20210226-5093](#), Feb 26, 2021.

⁴⁴ KRRC, [20210322-5335](#), Mar. 22, 2021.

⁴⁵ KRRC, [20211214-5058](#), Dec. 14, 20221.

⁴⁶ KRRC, [20220502-5171](#), May 02, 2022.

⁴⁷ National Marine Fisheries Service, [20211220-5034](#), Dec. 20, 2021.

⁴⁸ U.S. Fish & Wildlife Service, [20211222-5170](#), Dec. 22, 2021.

⁴⁹ Oregon Department of Environmental Quality, [Clean Water Act Section 401 Water Quality Certification](#), Sept. 07, 2018.

⁵⁰ State Water Resources Control Board (CA), [20200409-5054](#), April 09, 2020.

⁵¹ FERC Office of Energy Projects, [20220225-3040](#), Feb. 25, 2022.

⁵² FERC Office of Energy Projects, [20210617-3135](#), June 06, 2021.

1 to the initiation of dam removal and facilities disposal. This is despite the extra effort associated with
2 license transfer to KRRC, which is not relevant to Potter Valley, and a very complicated project
3 involving four dams. I see no good reason to estimate that Potter Valley would take longer, and the
4 original 4-year process envisioned for Klamath remains realistic for future similar projects. The
5 experience with Kilarc-Cow Creek is also consistent with this estimate.
6

7 **Potter Valley Project Replacement Transformer**

8 In summer 2021, the transformer at the Potter Valley Project powerhouse failed. Initially, PG&E
9 stated that it was deciding whether to replace the transformer. In early 2022, however, PG&E announced
10 that it would replace the transformer. PG&E estimates that the replacing the transformer will cost \$8.9
11 million and plans to recover this cost through an authorized revenue requirement in this rate case.⁵³ The
12 new transformer would not come online until 2024.⁵⁴

13 As discussed below, the small amount of power the Project has been generating is very likely to
14 decrease during any remaining years of operations. Project flows and power production have changed
15 markedly at key decision points. The 2002 NMFS Biological Opinion and Reasonable and Prudent
16 Alternative (RPA) resulted in reduced diversions from the Eel River to Potter Valley beginning in 2006.
17 PG&E's data show Potter Valley's power production has sharply reduced over the last two decades from
18 the levels the Project generated until 2006. Those levels, in turn, were a significant reduction from
19 Project operations to 1993.

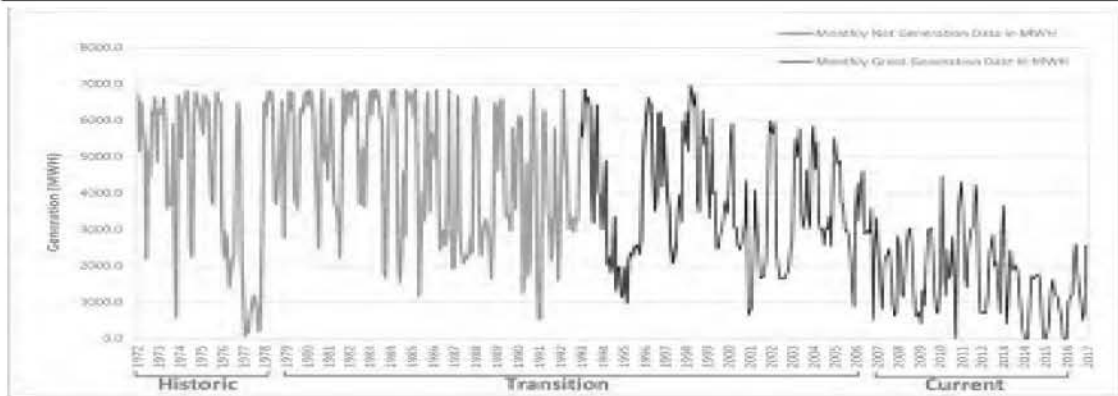
20 PG&E's Pre Application Document (PAD) filing with FERC explains the following graph
21 presenting these past eras of power generation at the Project, at p 4-52: "Available generation data
22 included in this PAD spans 1972 through 2016 (PG&E 2016). Figure 4-2 graphically depicts average
23 monthly generation (1972–2016). Average annual generation at the Potter Valley Powerhouse was
24 approximately 53,600 megawatt hours (MWh) during historic operations (1972–1978), 49,700 MWh
25 during transition operations (1979–2006), and 19,900 MWh for current operations (2007–2016)."⁵⁵
26

27 ⁵³ Exhibit CalTrout 1-2 (attached hereto) at Questions 006 and 007.

28 ⁵⁴ *Id.* at Question 014.

⁵⁵ Exhibit CalTrout 1-3 (attached hereto).

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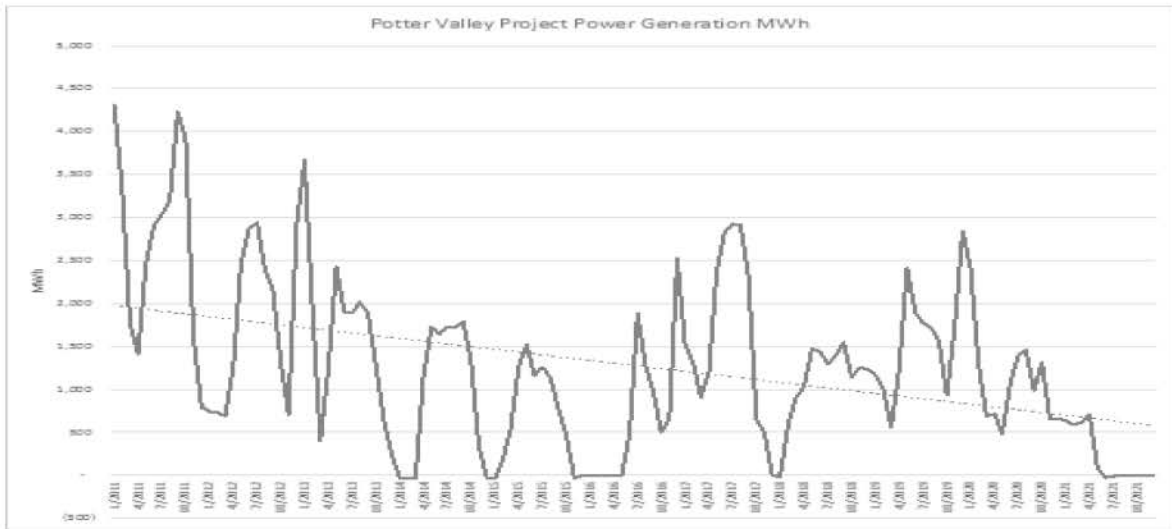


Note:
 Historic Period Average Annual Generation (1972-1976) = 53,556 MWh
 Transition Period Average Annual Generation (1977-2006) = 42,704 MWh
 Current Period Average Annual Generation (2007-2016) = 19,679 MWh
 Gross generation is the total generation produced by the powerhouse. Net generation is the total generation produced by the powerhouse less powerhouse energy use (i.e., the amount of generation that actually leaves the powerhouse for distribution to the customer). Net generation data and gross generation data overlap from January 1993 to July 1997 MWh = megawatt hour

Figure 4-2 Potter Valley Powerhouse Monthly Generation (1972-2016)

4-53
 Potter Valley Hydroelectric Project, FERC Project No. 77
 © 2017, Pacific Gas and Electric Company

PG&E’s average monthly power generation data for the years 2017-21 confirm that Project power production has not recovered to even the average levels of the previous decade.⁵⁶



⁵⁶ Exhibit CalTrout 1-4 (attached hereto).

1
2 Diversions from the Eel to the Russian, and resulting power generation by the Project, continued
3 to be unpredictable in the years since the PAD was published in 2017. While the 2010s saw some
4 months peak above 4000 MWh/mo, the high points in more recent years only approach 3000 MWh/mo,
5 but as often rise only to half that level. Generally, the Project’s monthly production often peaks in July
6 before it starts to decline substantially in August through October.

7 Additionally, it is unlikely that flow diversions to the Russian River through the Potter Valley
8 powerhouse will continue under the flow schedule established by the Project license as amended in
9 2002. As NMFS explained in a March 16, 2022 letter to FERC, Project operations, and particularly
10 diversions, pose a continuing threat to listed salmon and steelhead in the Eel River listed under the
11 Endangered Species Act (ESA).⁵⁷ NMFS explains that “the Project is causing take of ESA-listed
12 salmonids in a manner not anticipated in the Opinion and from activities not described in the Opinion.”

13 Thus, NMFS details eight Interim Protective Measures which it requests FERC incorporate into
14 the Project’s annual license to ensure additional protections for Eel River salmon and steelhead pending
15 Project decommissioning. For example, NMFS determined that the “RPA summer flow component is
16 not providing the anticipated benefits to ESA-listed salmonids” and that therefore “[c]hanges in flows
17 are also necessary to promote suitable water temperatures for juvenile salmonids during the dry season
18 in order to improve their ability to survive, grow, and outcompete warmer-water invasive fish
19 species.”⁵⁸ For this and other reasons, NMFS called for four different interim measures to implement a
20 “water temperature management plan,” “revise the summer flow component of the RPA,” “implement a
21 reservoir storage-based coldwater pool management strategy for Lake Pillsbury targeting suitable
22 summer water temperatures,” and revise water year classifications to more effectively address extreme
23 drought conditions.⁵⁹ In general, those measures will have the effect of increasing Eel River flows and
24 further restricting water diversions from the Eel River to the Project powerhouse. Those additional
25 limited diversions will further limit the Project’s power production.

27 ⁵⁷ Exhibit CalTrout 1-5 (attached hereto).

28 ⁵⁸ *Id.* at 3.

⁵⁹ *Id.* at 4.

1 Additionally, diversions from the Eel River to the Potter Valley Project powerhouse have been
2 limited in seven of the last ten years by PG&E’s requested flow-related variances.⁶⁰ PG&E has
3 requested these variance because the combination of low precipitation and high temperatures has left
4 PG&E unable to meet RPA-mandated flows.

5 All of these factors suggest average flows and power production are likely to fall further during
6 the remaining years of Project operation.

28 ⁶⁰ See, e.g., CalTrout Ex. 1-6 (PG&E’s most recent drought-related variance request, dated May 13, 2022, attached hereto).

Exhibit CalTrout 1-1

A.21-06-021

Date Served: June 13, 2021

Exhibit to Testimony of Brian J. Johnson

“Request for Plan and Schedule for Surrender Application and Response to
National Marine Fisheries Service’s March 17, 2022 Filing”

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 77-000--California
Potter Valley Hydroelectric Project
Pacific Gas and Electric Company

May 11, 2022

VIA FERC Service

Jan Nimick, Vice President
Pacific Gas and Electric Company
Mail Code: N11E
P.O. Box 770000
San Francisco, California 94105

Subject: Request for plan and schedule for surrender application and response to National Marine Fisheries Service's March 17, 2022 filing

Dear Mr. Nimick:

This letter regards the Potter Valley Hydroelectric Project No. 77.¹ The project is located on the Eel and East Fork Russian Rivers, in Lake and Mendocino Counties, California. The Commission issued a license for the project on October 4, 1983. The license expired on April 14, 2022. On April 21, 2022, the Commission issued a notice of authorization for continued project operation.

Background

On April 6, 2017, you filed a Notice of Intent (NOI) and Pre-Application Document (PAD) to relicense the project. On January 25, 2019, you withdrew your NOI and PAD, which became effective on February 11, 2019. On March 1, 2019, the Commission issued a notice soliciting interest from other parties to file NOIs and PADs, and requests to complete the remaining pre-filing stages of the integrated licensing process (ILP).

¹ *Pacific Gas and Electric Company*, 25 FERC ¶ 61,010 (1983).

On June 28, 2019, the NOI Parties² filed an NOI to file an application for new license for the project. On August 1, 2019, the Commission issued public notice of the NOI Parties' intent to continue the licensing process and file a final license application by April 14, 2022.

On September 2, 2021, the NOI Parties filed a request that the Commission place in abeyance the schedule for the ILP until May 31, 2022. By letter dated September 23, 2021, Commission staff reiterated the April 14, 2022 deadline to file a license application for the project. Ultimately, the NOI Parties did not file a license application. However, on April 15, 2022, PVP 77 LLC (PVP) filed a license application that Commission staff rejected as untimely and patently deficient by letter issued April 22, 2022.³

Request for Plan and Schedule for Surrender Application

Given your withdrawal of the NOI and PAD in 2019, and that no other entity filed an adequate license application within the timeframe allowed, it is necessary that you provide a plan and schedule to file a surrender application⁴ with the Commission.

In order for you to provide an acceptable plan and schedule, your surrender application⁵ must address and include: (1) a decommissioning plan for the project; (2) whether any ground disturbance would occur with decommissioning; (3) any environmental effects expected from the surrender of the project and measures you would implement to minimize those environmental effects; and (4) written documentation of consultation with relevant federal and state resource agencies, affected Indian Tribes, as

² The NOI Parties are proxies for a new Regional Entity that intended to be the license applicant for the project. The Regional Entity, once formed under California law, would supplant the NOI Parties in the licensing proceeding. The NOI Parties include Mendocino County Inland Water Agency and Power Commission; Sonoma County Water Agency; California Trout, Inc.; County of Humboldt, California; and the Round Valley Indian Tribes.

³ On April 25, 2022, PVP filed a request for rehearing of Commission staff's April 22, 2022 letter. Review of this request is pending.

⁴ See 18 CFR 6.1 and 6.2 of the Commission's regulations.

⁵ For more information on what to include in your application, please visit: <https://www.ferc.gov/industries-data/hydropower/administration-and-compliance/how-surrender-license-or-exemption>.

well as any other entities, such as non-governmental organizations, that may be interested in the surrender of the project.⁶

Documentation of consultation should include your letter initiating consultation with the relevant federal and state resource agencies, and interested non-governmental organizations and Indian Tribes, any responses received from those entities, and your response to any comments received. Resource agencies and any other interested parties should be given a minimum of 30 days to provide comments on your application.

We note that several species listed for protection under the Endangered Species Act (ESA) occur in the project area and that historic and cultural resources may be affected by surrender of the project. We ask that you consider requesting designation as our non-federal representative for the purposes of consultation with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act, and for the purposes of consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the ESA.

NMFS's March 17, 2022 Filing

On March 17, 2022,⁷ NMFS filed a letter requesting that the Commission: (1) identify any areas of concern and remediation regarding reasonable and prudent alternatives (RPAs) included in a NMFS's November 26, 2002 Biological Opinion (BO);⁸ (2) identify current project activities not previously identified in the BO where incidental take is unauthorized; (3) consider interim protective measures necessary to protect listed species; and (4) reinstate consultation under section 7 of the ESA, as well as the Essential Fish Habitat provisions of section 305(b) of the Magnuson-Steven's Fishery Conservation and Management Act (MSA).

NMFS states that the 2002 BO identified RPAs and incidental take authorization for a specific 20-year term that expired on April 14, 2022. In addition, NMFS suggests that based upon current information the project is causing take of ESA-listed fish in a manner not anticipated or addressed in the 2002 BO. Specifically, NMFS identifies the

⁶ See 18 CFR 6.8 of the Commission's regulations.

⁷ NMFS's letter can be accessed using this link:
https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20220317-5064&optimized=false

⁸ This BO was filed with the Commission on December 2, 2002.

RPA summer flow component and suggests that juvenile steelhead trout have continued to experience reduced production below Scott Dam primarily due to unfavorable summer habitat conditions caused by elevated water temperatures in outflow from Lake Pillsbury, as well as predation from invasive species. NMFS suggests that specific activities not addressed in the 2002 BO include Cape Horn Dam, its infrastructure, fishway maintenance, and flow operations. Additionally, NMFS suggests that the project adversely affects Habitat Areas of Particular Concern for federally managed species pursuant to the Pacific Coast Salmon Fishery Management Plan through its reservoir and flow schedule and effects on complex channels and floodplains, thermal refugia, and spawning habitat.

Citing procedural complexities, NMFS suggests that the Commission amend the license to incorporate eight interim protective measures, which NMFS believes are necessary to minimize and avoid take of ESA-listed salmonids pending a final determination regarding the future of the project.

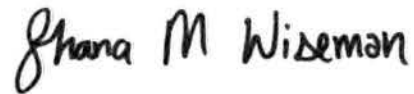
Request for Response

We request a response to this letter that includes (1) a plan and schedule for a surrender application; and (2) a response to NMFS's March 17, 2022 letter providing recommended interim measures and requesting reinitiation of consultation under ESA and MSA. We note that, to the extent you are not willing to adopt NMFS's proposed interim measures by filing a voluntary amendment application, the Commission will be required to consider whether there are sufficient grounds to start a proceeding to reopen and amend the license to require these measures. Your response is due no later than 60 days of the date of this letter.

The Commission strongly encourages electronic filing. Please file the requested response using the Commission's eFiling system at <http://www.ferc.gov/docs-filing/efiling.asp>. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include docket number P-77-000.

Thank you for your cooperation. If you have any questions regarding this matter, please contact Diana Shannon at (202) 502-6136 or diana.shannon@ferc.gov.

Sincerely,

A handwritten signature in black ink that reads "Shana M Wiseman". The signature is written in a cursive, slightly slanted style.

Shana Wiseman, Chief
Environmental and Project Review Branch
Division of Hydropower Administration
and Compliance

Exhibit CalTrout 1-2

A.21-06-021

Date Served: June 13, 2021

Exhibit to Testimony of Brian J. Johnson

“PG&E Responses to Data Requests from California Trout et al.”

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q001		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q001		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Rebecca Doidge	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 001

What is the current balance of PG&E's decommissioning fund for hydroelectric facilities?

ANSWER 001

Refer to Exhibit (PG&E-5), WP 8-8, lines 2-5, which shows the annual decommissioning accrual into the hydro decommissioning reserve that began in 2020, as well as the forecast spend on decommissioning activities in the period 2020-2022.

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q002		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q002		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Rebecca Doidge	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 002

Describe the underlying assumptions for PG&E's \$132,900,000 estimate of Potter Valley decommissioning costs set forth on page 8-15 of Exhibit PG&E-5. (E.g., does this estimate assume full removal and full site restoration of both Scott Dam or Cape Horn Dam, or something less?)

ANSWER 002

Refer to Exhibit (PG&E-5), WP 8-6, lines 78-92 which shows the roll-up summary of costs for the Potter Valley estimate total in 2020 dollars; the \$132,900,000 estimate is in nominal dollars. The line items on WP 8-6 were taken from the project-specific study that was performed for Potter Valley in 2016. The estimate does not correspond to a specific dam removal scenario. As emphasized in PG&E's prepared testimony, the estimates are used to establish the accrual calculation and are not intended to pre-determine which projects would ultimately be decommissioned or the specific requirements that would be included in a Federal Energy Regulatory Commission (FERC) decommissioning order. The estimates provided are theoretical and will continue to be refined in the future.

**PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response**

PG&E Data Request No.:	CaliforniaTrout_001-Q004		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q004		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Rebecca Doidge	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 004

Please produce copies of any documents other than the AACE Level 5 Project Study that provide the basis for this decommissioning cost estimate.

ANSWER 004

There are no other documents that were used as the basis for the Potter Valley estimate.

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q005		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q005		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Rebecca Doidge	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 005

On what data/evidence does PG&E base its assumption of a 15-year decommissioning period for the Potter Valley Project (see Exhibit PG&E-5 at pp 8-12 & 13)? Please provide this data and evidence.

ANSWER 005

Please see Exhibit (PG&E-5), p 8-13, lines 10-13. "PG&E has continued to assume a rough timeline of 15 years to decommission a hydro project. Physical decommissioning project work is assumed to take five years to complete." In order to establish the decommissioning forecast, PG&E has assumed it will take 10 years to complete the regulatory process with the Federal Energy Regulatory Commission (FERC) to surrender the license and receive the decommissioning order. Furthermore, PG&E has assumed that physical decommissioning would take five years so the forecast costs are spread evenly over five years. This "rough timeline" was used as a base assumption for all projects in the decommissioning estimate and is not based on specific data, nor intended to determine the future timeline for the Potter Valley project.

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q006		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q006		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Eric Van Deuren	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 006

What is the estimated all-in cost of providing a new transformer to the Potter Valley Project?

ANSWER 006

PG&E estimates the cost to replace the transformer at approximately \$8.9M.

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q007		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q007		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Eric Van Deuren	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 007

If PG&E intends to recover any of the costs of this new transformer from the ratepayers, what is the anticipated authorization and timing for the cost recovery?

ANSWER 007

PG&E will recover the transformer replacement costs as a hydro capital investment within the approved forecast of the 2023 GRC. PG&E did not include the forecast for the replacement of the transformer in the 2023 GRC because it had not yet decided to replace the transformer when the GRC forecast was developed. Nonetheless, PG&E will recover the cost of the transformer replacement within the authorized amounts approved by the CPUC for the generation revenue requirement within the 2023 GRC.

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q012		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q012		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Eric Van Deuren	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 012

What potential costs do you estimate would be involved in PG&E transferring the new transformer to another location?

ANSWER 012

PG&E has not estimated the cost to transfer the transformer to another location.

PACIFIC GAS AND ELECTRIC COMPANY
2023 General Rate Case Phase I
Application 21-06-021
Data Response

PG&E Data Request No.:	CaliforniaTrout_001-Q014		
PG&E File Name:	GRC-2023-PhI_DR_CaliforniaTrout_001-Q014		
Request Date:	March 15, 2022	Requester DR No.:	001
Date Sent:	March 29, 2022	Requesting Party:	California Trout, Inc.
PG&E Witness:	Eric Van Deuren	Requester:	Matthew Clifford/ Edward T. Schexnayder

QUESTION 014

When do you estimate that the new transformer will be operational?

ANSWER 014

PG&E estimates that the new transformer will be operational in 2024.

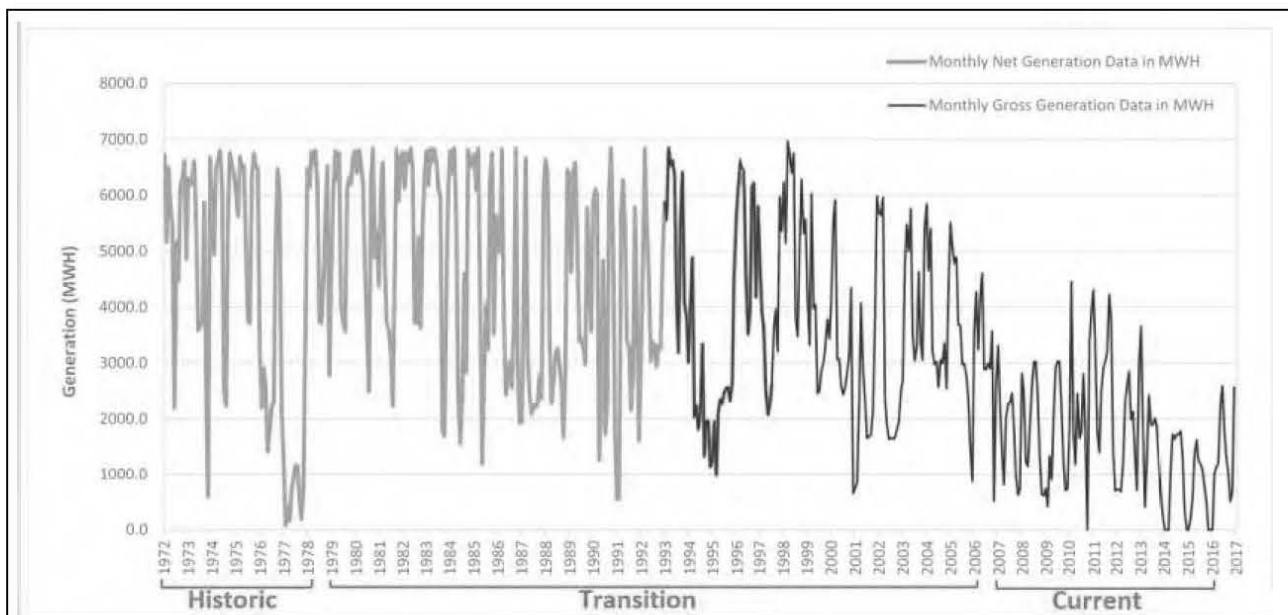
Exhibit CalTrout 1-3

A.21-06-021

Date Served: June 13, 2021

Exhibit to Testimony of Brian J. Johnson

“Figure 4-2 Potter Valley Powerhouse Monthly Generation (1972-2016)”



Notes:

Historic Period Average Annual Generation (1972–1978) = 53,556 MWh

Transition Period Average Annual Generation (1979–2006) = 49,704 MWh

Current Period Average Annual Generation (2007–2016) = 19,879 MWh

Gross generation is the total generation produced by the powerhouse. Net generation is the total generation produced by the powerhouse less powerhouse energy use (i.e., the amount of generation that actually leaves the powerhouse for distribution to the customer). Net generation data and gross generation data overlap from January 1993 to July 1997

MWh = megawatt hours

Figure 4-2 Potter Valley Powerhouse Monthly Generation (1972–2016)

Exhibit CalTrout 1-4

A.21-06-021

Date Served: June 13, 2021

Exhibit to Testimony of Brian J. Johnson

“Potter Valley Project Power Generation MWh”

Potter Valley Project Power Generation MWh

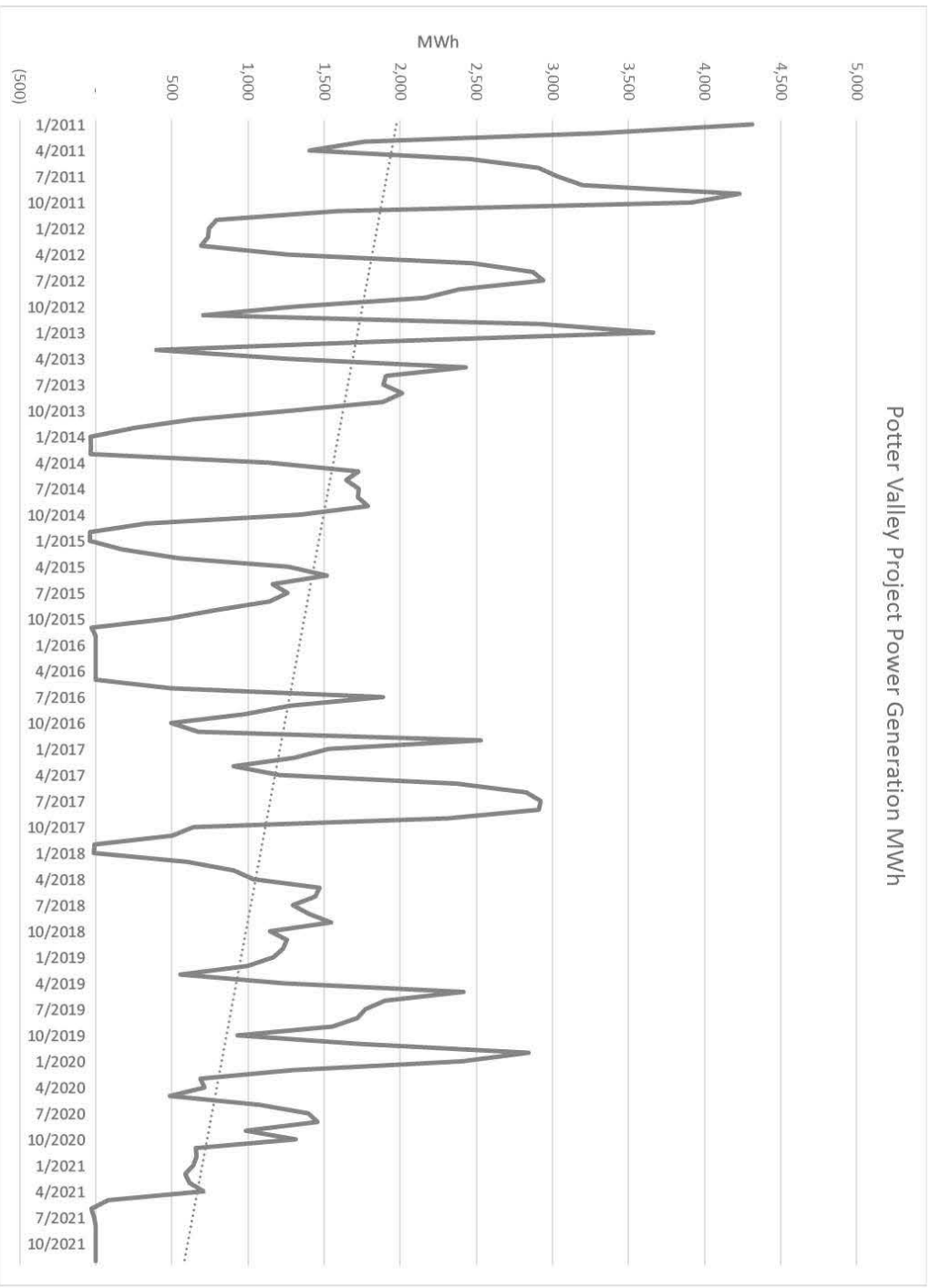


Exhibit CalTrout 1-5

A.21-06-021

Date Served: June 13, 2021

Exhibit to Testimony of Brian J. Johnson

“Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act
Consultations on the Potter Valley Project (P-77) on the Eel River, California”



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

March 16, 2022

Refer to NMFS No: SWR-2002-1652

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act
Consultations on the Potter Valley Project (P-77) on the Eel River, California

Dear Secretary Bose:

NOAA's National Marine Fisheries Service (NMFS) is concerned with insufficient coverage under the Endangered Species Act¹ (ESA) for incidental take of ESA-listed salmonids and adverse effects to Pacific Coast Salmon Essential Fish Habitat (EFH) resulting from operations of the Potter Valley Hydroelectric Project (P-77) (Project), located on the Eel River in California. Accordingly, the purpose of our letter is to: (1) identify areas of concern and remediation regarding specific reasonable and prudent alternatives (RPAs) included in NMFS' November 26, 2002 Biological Opinion (Opinion) for the proposed license amendment for the Project; (2) identify current activities not identified in the *Description of the Proposed Action* in the Opinion, where incidental take is unauthorized; (3) request the Federal Energy Regulatory Commission (Commission) to consider interim protective measures, which are intended to reduce take of ESA-listed salmonids; and (4) recommend that the Commission reinstate consultation under section 7 of the ESA and reinstate consultation under the EFH provisions of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) on the actions currently within its discretion.

NMFS' 2002 Opinion on the amendment to the Project license identified RPAs and provided incidental take authorization for implementing the proposed action for a 20-year period, which elapses on April 14, 2022. The 20-year duration of the proposed action is a central component of the Opinion. We relied upon this set duration to: (1) assess the effects of the proposed action; (2) develop the RPAs necessary to avoid jeopardy and the destruction or adverse modification of critical habitat; and (3) evaluate the effectiveness of the RPAs over the expected life of the proposed action. Based on information currently available, we conclude 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.

¹ Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.)



RPA Areas of Concern: The Summer Flow Component

At the time of the Opinion's issuance, we determined that the incidental take of Southern Oregon Northern California (SONCC) coho salmon, Central California Coast (CCC) coho salmon, California Coastal (CC) Chinook salmon, Northern California (NC) steelhead trout, and CCC steelhead trout was likely to occur, but would be difficult to detect. We, therefore, provided specific reasonable and prudent measures (RPMs) to evaluate the efficacy of specific RPAs over a set duration of time. In particular, the RPA summer flow component was designed to avoid jeopardy, and RPM 8/Element 13 (RPM 8/E13) was required to properly evaluate its effectiveness. RPM 8/E13 states:

*After ten years of monitoring, the summer flow component of the RPA will be reevaluated based on results provided in the annual reports. If NMFS determines that the summer flow component of the Opinion's RPA is not providing the anticipated benefits to salmonids, then NMFS will re-evaluate this component of the RPA to determine if **additional measures or changes in flows are necessary**. [Emphasis supplied.]*

More specifically, the RPA summer flow component was intended to address concerns regarding reduced survival resulting from unfavorable habitat conditions and predation upon juvenile salmonids, especially to juvenile steelhead trout (*Oncorhynchus mykiss*). During the past several years, Pacific Gas and Electric (PG&E) implemented additional measures to further investigate the performance of the RPA summer flow component and to determine its adequacy to support summer rearing juvenile steelhead trout. The additional measures implemented under RPM8/E13 include:

1. 2014 to current: Vertical temperature arrays were added in Lake Pillsbury to better understand coldwater storage under various water year classifications that influence habitat conditions downstream of Scott Dam.
2. Summer 2017 and 2018: Juvenile steelhead trout summer rearing and density surveys were conducted at historic monitoring sites within select tributaries (*i.e.*, Garcia Creek, Thomas Creek, Benmore Creek, and Soda Creek) to determine potential changes in steelhead trout production within tributaries between Scott Dam and Cape Horn Dam and the mainstem Eel River located within the action area and over the term of the license.
3. 2020 to current: Dissolved oxygen vertical arrays were added in Lake Pillsbury to further investigate water quality conditions that influence juvenile steelhead habitat conditions below Scott Dam.

While a full evaluation of the RPA summer flow component is too complex to include here, the data generated by these additional measures indicate that juvenile steelhead trout have continued to experience reduced production below Scott Dam despite implementation of the RPA. Reduced overall steelhead trout production below Scott Dam is primarily due to unfavorable summer habitat conditions caused by elevated temperature of water released from Lake Pillsbury in some

years, further exacerbating inter-specific competition between juvenile steelhead trout and Sacramento pikeminnow (*Ptychocheilus grandis*) and increasing predation risk by invasive fish species (*i.e.*, Sacramento pikeminnow and black bass species (*Micropterus spp.*)). Therefore, we have concluded that the RPA summer flow component is not providing the anticipated benefits to ESA-listed salmonids. Changes in flows are also necessary to promote suitable water temperatures for juvenile salmonids during the dry season in order to improve their ability to survive, grow, and outcompete warmer-water invasive fish species.

Project Activities Not Described in NMFS' 2002 Opinion

The Opinion assessed only those activities described in the *Description of the Proposed Action*, and the *Incidental Take Statement (ITS)* explicitly excludes coverage for activities not described in the Opinion. Cape Horn Dam, the associated infrastructure, fishway maintenance, and flow operations to achieve fish passage at the passage facility are neither described within the *Description of the Proposed Action*, nor are their effects to listed species assessed within the Opinion. Consequently, we did not authorize incidental take resulting from these effects (e.g., delayed or blocked migration and predation of ESA-listed salmonids caused by the configuration and full operation of the Cape Horn Dam fish passage facility). Similarly, the Commission's subsequent approval of modifications and operations of this facility has not undergone ESA or EFH consultation.

Additionally, the Project overlaps with Habitat Areas of Particular Concern (HAPC) for federally managed fish species (CC Chinook salmon and SONCC coho salmon) under the Pacific Coast Salmon Fishery Management Plan, both within the immediate area of the Project and further downstream where Project flows affect habitat in the Eel River. Regulations implementing the MSA provide that fishery management plans should identify specific types or areas of habitat within EFH, based on one or more of the following considerations: the importance of the ecological function provided by the habitat; the extent to which the habitat is sensitive to human-induced environmental degradation; whether, and to what extent, development activities are, or will be stressing the habitat type; and the rarity of the habitat type (50 CFR 600.815(a)(8)). Federal projects with potential adverse impacts to HAPCs are more carefully scrutinized during the consultation process. Based on the information currently available, NMFS concludes that the following HAPC identified by the Pacific Fishery Management Council are likely being adversely affected by the Project's reservoir and flow schedule: complex channels and floodplains; thermal refugia; and spawning habitat (PFMC 2021).

Interim Protective Measures

We are available to provide technical assistance to the Commission to promote a timely and efficient ESA and MSA consultation process. However, we recognize that the procedural complexities associated with the impending license expiration and uncertainty regarding the status of a future license proceeding may delay such consultation. Therefore, because of the current status of ESA-listed salmonids in the Eel River, the ongoing impacts to these species, and the anticipated delays in developing a Biological Assessment and EFH Assessment, NMFS requests that the Commission amend the Project license to incorporate interim protective measures. These protective measures are necessary to minimize and avoid further take of ESA-listed salmonids

pending a final determination ordered by the Commission regarding the future of the Potter Valley Project and completion of a subsequent ESA and EFH consultation.²

Interim Protective Measures:

1. Full implementation of the Cape Horn Dam Fish Passage Facility Winter Operations Procedure (dated November 13, 2020) and continuation of the Commission Order Approving Temporary Operation of the Sediment Exclusion Doors (dated December 13, 2021). An annual evaluation and any necessary adjustments to these interim passage operations will require the review and approval of NMFS. The Biological Assessment provided to NMFS during the consultation process will require a thorough evaluation of the full Cape Horn Dam fish passage facility to ensure current NMFS fish passage standards are met.
2. In consultation with NMFS, California Department of Fish and Wildlife (CDFW), Round Valley Indian Tribes (RVIT) and United States Fish and Wildlife Service (USFWS), and within 90 days of issuance of this letter, develop and implement a water temperature management plan that provides suitable seasonal water temperatures for adult Chinook salmon (fall), juvenile CC Chinook salmon, and NC steelhead trout outmigration (spring), and juvenile NC steelhead rearing (summer), below Scott Dam. The water temperature management plan will require the review and approval of NMFS.
3. In consultation with NMFS, CDFW, RVIT, and USFWS, re-evaluate and revise the summer flow component of the RPA, incorporating Lake Pillsbury coldwater pool management (dry season reservoir storage targets) and operate project releases to ensure suitable summer rearing temperatures and physical habitat conditions for salmonids below Scott Dam. Proposed changes to the summer flow component of the RPA will require the review and approval of NMFS prior to implementation.
4. In consultation with NMFS, CDFW, RVIT, and USFWS, re-evaluate and revise NMFS' Opinion RPA Operating Rule E.5 to implement a reservoir storage-based coldwater pool management strategy for Lake Pillsbury targeting suitable summer water temperatures for salmonids below Scott Dam, while managing water storage demands in the Russian River. Proposed changes to RPA Operating Rule E.5 will require the review and approval of NMFS prior to implementation.
5. In consultation with NMFS, CDFW, RVIT, and USFWS, re-evaluate and revise the water year classifications for project operations included in NMFS' 2002 Opinion to more appropriately handle extreme drought conditions, while providing beneficial habitat conditions for ESA-listed salmonids. A revised water year classification scheme will require the review and approval of NMFS.

² We note that authority for the Commission to implement our recommended interim protective measures is contained in Standard License Article (L Form Article) 15 as well as article 46 of the Commission's Opinion and Order Denying Appeal, Approving Settlement, and Issuing New License (Major) (Issued October 4, 1983).

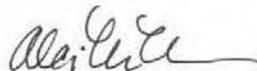
6. In consultation with NMFS, CDFW, RVIT, and USFWS, develop and implement an adult escapement monitoring plan for CC Chinook salmon, NC steelhead trout, and SONCC coho salmon for the Eel River upstream of the South Fork Eel River, including select sub-watersheds within this geographic area. An adult salmonid escapement monitoring plan will require the review and approval of NMFS.
7. In consultation with NMFS, CDFW, RVIT, and USFWS, continue to implement the annual Sacramento Pikeminnow Suppression Plan. The annual suppression plan will continue to require the review and approval of NMFS.
8. In consultation with NMFS, CDFW, RVIT, and USFWS, develop and implement a stream gauging plan to more accurately monitor cumulative inflow into Lake Pillsbury, above Scott Dam, and Tomki Creek. The stream gauging plan will require the review and approval of NMFS.

Reinitiation of Consultation

NMFS reiterates the need to reinitiate consultation under section 7 of the ESA and section 305(b) of the MSA regarding the effects of the Project on ESA-listed anadromous salmonids and their designated critical habitat. This consultation would include effects associated with the Cape Horn Dam fish passage facility and new information regarding the effects associated with the performance of the Project's RPAs. To avoid or minimize unauthorized take of ESA-listed salmonids prior to completion of consultation, we recommend FERC amend the license to include the interim protective measures listed above.³

NMFS is available to work with the Commission complete an efficient and timely ESA and EFH consultation process. Should you have any questions regarding this letter, please contact Mr. Joshua Fuller via email Joshua.Fuller@noaa.gov or by phone at 707-575-6096.

Sincerely,



Alecia Van Atta
Assistant Regional Administrator
California Coastal Office

³A review of FERC relicensing in California indicates that FERC can take 15 years or more to issue a new license or decommissioning order (the following relicensing and decommissioning actions have been pending before FERC for over 15 years: P-1962, P-2105, P-2082, P-606, P-344, etc.).

cc: Allan Renger, California Department of Fish and Wildlife, Allan.Renger@wildlife.ca.gov
Matt Meyer, California Department of Fish and Wildlife, Matt.Meyers@wildlife.ca.gov
Kathleen Willits, Round Valley Indian Tribes, Katwillits@rvit.org
Josh Boyce, United States Fish and Wildlife Service, Josh_Boyce@fws.gov
Jackie Pope, Pacific Gas and Electric, JHPL@pge.com
Andrew Anderson, Pacific Gas and Electric, A5AK@pge.com
Copy to file: 151422SWR2002SR6412

References

Pacific Fishery Management Council (PFMC). 2021. Pacific Coast Salmon Fishery Management Plan for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California as Revised through Amendment 21. PFMC, Portland, OR. 83 p.

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

Potter Valley Project

Project No. P-77

CERTIFICATE OF SERVICE

I hereby certify that I have this day served, by first class mail or electronic mail, a letter to Secretary Bose, Federal Energy Regulatory Commission, the NOAA's National Marine Fisheries Service's Comments, and this Certificate of Service upon each person designated on the official service list compiled by the Commission in the above-captioned proceeding.

Dated this 16th day of March 2022

Andrea Berry

Andrea Berry
National Marine Fisheries Service
North Central Coast Office



Exhibit CalTrout 1-6

A.21-06-021

Date Served: June 13, 2021

Exhibit to Testimony of Brian J. Johnson

“Potter Valley Hydroelectric Project (FERC No. 77)
2022 Flow Variance Request Due to Limited Water Availability”



May 13, 2022

Via Electronic Submittal (E-Filing)

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

**Re: Potter Valley Hydroelectric Project (FERC No. 77)
2022 Flow Variance Request Due to Limited Water Availability**

Dear Secretary Bose:

Please consider this letter a request for a flow variance for Pacific Gas and Electric Company's (PG&E) Potter Valley Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) No. 77. Lake Pillsbury, the storage reservoir for the Project, is not expected to fill enough this year to support license-required releases.

As of May 5, 2022, the estimated storage in Lake Pillsbury was approximately 62-thousand-acre feet (TAF), just over 80% of its total storage capacity of 75 TAF. The storage forecast shows the reservoir has likely entered dry season drawdown [Figure 1]. Under license-required flows, the reservoir is expected to be drawn down to critical minimum pool by late fall.

PG&E requests expedited review and approval to reduce flows at E-16 from Normal classification to Dry/Critically Dry. Under the Reasonable and Prudent Alternatives (RPA), the required flows at E-16 increase from 35 cfs to 75 cfs on May 15th. This increase will significantly increase the reservoir drawdown rate and result in more severe flow reductions later in the summer to maintain target storage in the reservoir.

Lake Pillsbury Minimum Pool

As a condition of a prior flow variance for the Project issued on July 15, 2016, FERC required PG&E to "determine the current low level operation constraints at Lake Pillsbury (beyond operator recommendations) that support a low reservoir elevation level." To address this requirement, PG&E submitted to FERC, on April 3, 2017, a Technical Memo (TM) that identified and evaluated potential dam safety and operational constraints on lowering the operating level. The TM found a high potential of bank sloughing exists at

pool levels between 5 and 12 TAF; the degree of bank sloughing is partially dependent on the drawdown rate of the reservoir.

Current and Forecasted Conditions

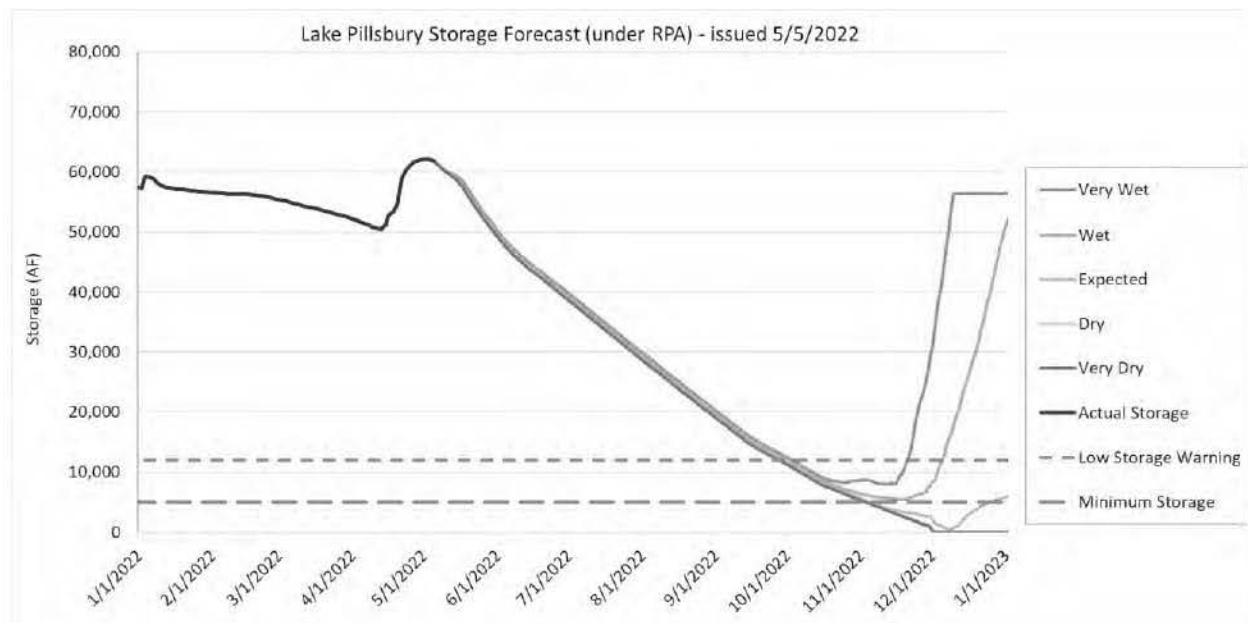


Figure 1. Lake Pillsbury forecast under license-required releases for different hydrologic conditions. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on May 5, 2022 Note: Drawdown projection includes a 5 TAF spring block water release (regular 2.5 TAF block water release plus the carryover block water release from 2021) and a 2.5 TAF block water release in the fall. The overall use of the 5 TAF block water can be used at any time in 2022 at the discretion of the Agencies, if there are no dam safety concerns.

PG&E consulted with the California Department of Fish and Wildlife (CDFW), US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and Round Valley Indian Tribes (RVIT) (hereafter, Agencies) during the development of the following variance proposal and resource Agencies provided input to PG&E. PG&E requests that the variance proposal take effect as soon as FERC approves the request.

Agency Consultation

Given the risk that providing Project License-required flows will lead to destabilizing drawdown rates and, in the worst case, reaching critical minimum pool at Lake Pillsbury, PG&E has been in consultation with resource Agencies and other interested stakeholders.

On March 3, 2022, PG&E held the 2022 Potter Valley Annual Biological Monitoring Meeting with Agencies. During the meeting, Agencies and PG&E agreed that in the

absence of significant storm runoff, flow reductions would be necessary to conserve water in Lake Pillsbury and provide flow and water quality conditions required to protect salmonids in the Eel River and avoid bank sloughing at Lake Pillsbury. PG&E provided Agencies with a draft variance proposal on March 31, 2022 (Enclosure 2), after meeting with agencies on March 28, 2022. Agencies provided comments on April 8, 2022, and PG&E provided a response to comments on May 9, 2022; this included a change to allocations based on increased inflow from April storms, followed by a meeting to discuss PG&E's proposed variance request on May 10, 2022 (Enclosure 1). The request in this letter includes comments received from the Agencies during the May 10, 2022 meeting.

Proposed Variance

Article 52 of the Project License requires PG&E to comply with the NMFS Reasonable and Prudent Alternative (RPA) that was made part of the license by FERC's "Order Amending License, issued January 28, 2004."

Below is a summary of the license-required and contract flows for 2022.

Table 1: License and Contract flows for 2022

Compliance Point	5/1 Requirement (cfs) without variance	Expected 6/1 Requirement (cfs) without variance	Classification*
Eel River below Scott Dam (E-2)	100 cfs	60 cfs	Normal
Eel River below Cape Horn Dam (E-11)	Value depends on Eel Index Flow	Summer flow is 9 cfs beginning on Aug. 1	Dry
East Branch Russian River (E-16)	35 cfs	75 cfs	Normal
Potter Valley Irrigation District	50 cfs	50 cfs	N/A

*Classifications are not finalized until May 15th for E-11 and June 1st for E-2/E-16. Expected classifications shown.

The upper Eel River contains habitat for Chinook salmon (*Onchorhynchus tshawytscha*) and steelhead trout (*O. mykiss*), both of which are listed as threatened under the Endangered Species Act (ESA). Under this variance, modifications to the minimum flows on the Eel River below Cape Horn Dam are not proposed and modifications to minimum flows below Scott Dam are within thresholds previously evaluated under the RPA.

The release obligations from expected Normal classification at E-2/E-16 and Dry classification at E-11 combined with normal water deliveries to PVID are forecasted to draw down Lake Pillsbury to critical levels by the end of the summer.

The following variance conditions will be in effect:

- PG&E will operate the Project to maintain at least 30 TAF in storage through September 15 per Agencies' request to limit depletion of cold-water pool.
- PG&E will coordinate with PVID to manage contract water deliveries on demand-based schedule. PG&E will provide PVID only with what is needed and no more than 50 cfs. Per the water sale contract, PG&E has discretion to limit deliveries, and will do so as needed to maintain storage above the 30 TAF target.
- Gaging Station E-2 will be reclassified as Critical. In practice, the E-2 flows will be the combined releases for E-11, E-16, and PVID, with a floor set by the minimum opening of the low-level outlet (around 35 cfs).
- Gaging Station E-16 will go to a target flow with no buffer, rather than a minimum flow with a buffer.
- Gaging Station E-16: Reduce target flow to 5 cfs initially. Target release can be adjusted between 5 cfs and 25 cfs based on storage projections.
- The Drought Working Group (DWG) will meet twice monthly, during the variance period, to discuss storage levels, release flow rates, water temperature profiles, release temperatures, and estimated temperature projections at E-2.
- DWG to determine flow modifications within variance flow bounds (Table 2) with Lake Pillsbury's early fall storage target serving as guidance. Flexibility in setting flows gives DWG the ability to respond to changing conditions and new information. If the DWG is unable to come to agreement on flow adjustments, NMFS, CDFW, and the RVIT will determine adjustments within the constraints of the FERC-approved variance.
- The drought variance will end when Lake Pillsbury storage exceeds 36 TAF following October 1, 2022, or is superseded by another variance. This storage threshold would allow the reservoir to meet minimum flow obligations, including a possible block water release, through January 2023, in the event of extremely low inflow in early winter.
- Provide Agencies discretion to use the 2021 roll-over 2.5 TAF of block water PG&E committed to in the 2021 Flow Variance Request (submitted to FERC on April 23, 2021) only if the reservoir meets or exceeds 50 TAF on June 1, 2022. This agreement will not affect the license-required annual allotment for 2022 of 2.5 TAF of block water. In addition, 2.5 TAF (one block water) will be rolled over into WY 2023 if unused in 2022. The roll-over amount will be allocated if PG&E determines it will not compromise dam safety
- PG&E will collect bi-weekly Lake Pillsbury vertical temperature profiles at Scott Dam, starting after May 1 through September 30, 2022. Temperature data will be incorporated into a spreadsheet model for comparison with historical temperature profiles and elevation and used to inform flow adjustments throughout the variance

period. This information will be distributed to the DWG prior to bi-weekly meetings.

- PG&E will collect bi-weekly spot temperature measurements in coordination with vertical temperature profiles at two accessible locations on the Eel River (Eel River at/near Benmore Creek and Eel River at/near Trout Creek) between Scott Dam and Cape Horn Dam to determine flow and habitat suitability for salmonids.
- PG&E will continue to monitor adult salmonid passage at Van Arsdale Fisheries Station at Cape Horn Dam throughout the variance period and to provide data to the DWG upon request.
- PG&E will provide funding for CDFW's adult salmonid DIDSON monitoring effort on the mainstem Eel River above South Fork Eel for the period of October 1 - December 31, 2022, as part of this variance.
- PG&E will monitor juvenile and adult salmonid outmigration through the Van Arsdale Fisheries Station at Cape Horn Dam in coordination with Agencies until June 1, 2022.
- PG&E will submit monthly storage reports to FERC.

Table 2: Range of flow values allowed by variance

Compliance Point	Allowed Range: Min / Max	Classification	Notes
Eel River below Scott Dam (E-2)	20 cfs / No max.	Critical	Adjusted from Normal classification
Eel River below Cape Horn Dam (E-11)	9 cfs (plus buffer) / No max.	Dry*	No change
East Branch Russian River (E-16)	5 cfs / 25 cfs	Critical / Dry	Adjusted from Normal classification
Potter Valley Irrigation District	No min. / 50 cfs	N/A	Demand-based allocation at PG&E's discretion

*Expected E-11 classification for WY2022 is Dry, however, the final classification won't be determined until May 15th.

Under the proposed variance, the reservoir can be managed to remain above 30 TAF storage target through September 15, 2022, and above 12 TAF through the end of the year [Figure 2]. An additional variance that addresses fall and winter flows may be necessary to maintain the reservoir above the level where bank stability issues arise, or at least slow the drawdown to a safe rate.

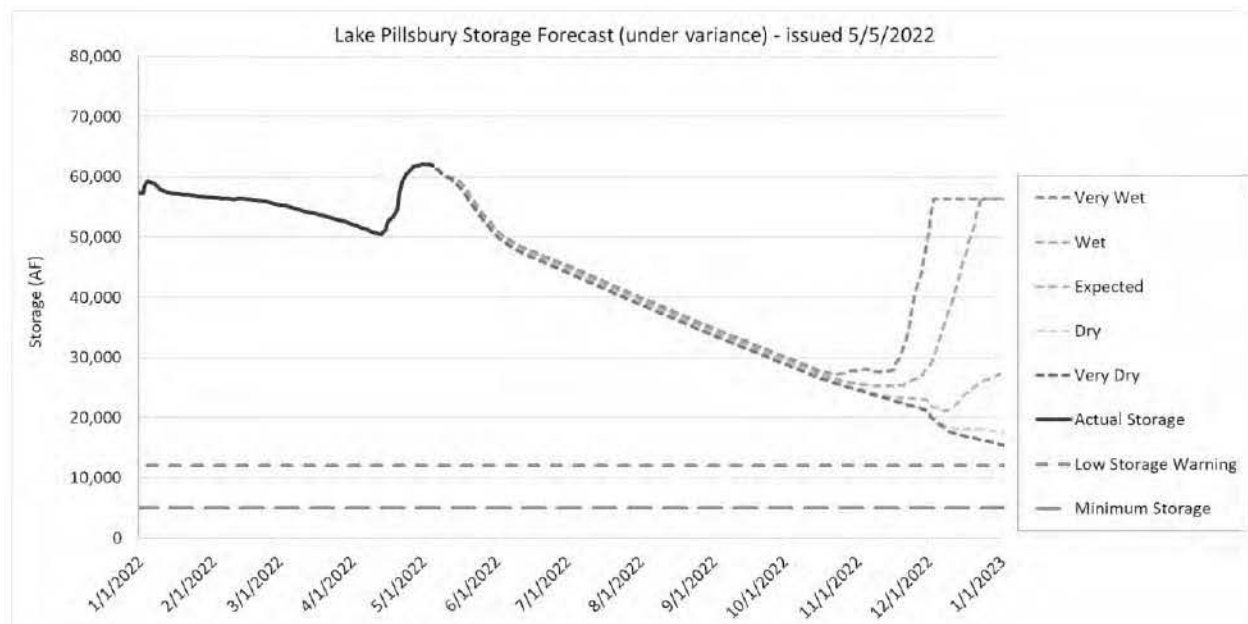


Figure 2. Lake Pillsbury forecast under proposed variance for different hydrologic conditions. Scenario shown assumes 12 TAF PVID allotment and 20 cfs flow for E-16. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on May 5, 2022. Note: Drawdown projection includes a 5 TAF block water release assumed to occur in the spring of 2022 and a 2.5 TAF block water release in the fall of 2022.

Biological Impacts

PG&E biologists have reviewed this variance proposal and believe that the proposed drought flow variance is necessary to conserve water in Lake Pillsbury and provide adequate flow releases and suitable water quality conditions for the long-term protection of Chinook salmon and steelhead trout in the watershed. Below is their biological analysis.

Eel River below Lake Pillsbury and Van Arsdale Reservoir

The primary ESA-listed fish species impacted by the Potter Valley Project are Chinook salmon (*Onchorhynchus tshawytscha*) and steelhead trout (*O. mykiss*). 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 be present in the mainstem Eel River as well.

An early and intense wet season storm hit the Eel River watershed in late October. That storm, combined with above average precipitation in December resulted in high flows and favorable conditions for adult Chinook salmon migration in the upper Eel River watershed. A total of 457 adult Chinook salmon were counted at Van Arsdale Fisheries Station at Cape Horn Dam from October through January, and these individuals likely contributed to

increased Chinook fry production in the Eel River between Scott Dam and Cape Horn Dam. However, that wet period was followed by unseasonably dry conditions in January through March leading to low flows in the upper Eel River and tributaries, which coincided with adult steelhead trout (pre- and post-spawn) annual migration.

Adult steelhead trout migrate into the upper Eel River watershed to spawn primarily from January through April. Through May 1, 2022 of the current spawning season, 231 adult steelhead trout have been counted at Van Arsdale Fisheries Station at Cape Horn Dam. Under the proposed variance, flows in the Eel River for adult steelhead trout migration and spawning would not be reduced below the RPA-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 one 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 would not be affected by the variance. An increase in spring flows, followed by a decrease to summer levels, as prescribed by the RPA, would still occur under the variance proposal, thus providing important migration cues for downstream migrating fish.

Once approved, the proposed variance would reduce minimum flows in the reach between Scott and Cape Horn Dams to preserve storage in Lake Pillsbury. While this will reduce the available summer rearing habitat for steelhead trout, minimum flows would remain above the E-2 "Critical" classification prescribed by the RPA and suitable water quality conditions will be preserved. Summertime flow requirements in the Eel River below Cape Horn Dam under the proposed variance would remain unchanged from the RPA-prescribed "Dry" summer flow classification of 9 cfs, plus a buffer release.

Transitioning into fall and winter, the proposed drought flow variance is the prudent action, given critical water levels in Lake Pillsbury and the unpredictability of storm activity and inflow conditions. Implementation of the proposed drought flow variance will conserve water in Lake Pillsbury, provide suitable water quality conditions below Scott Dam and 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) due to changes in flow, high levels of turbidity, and sedimentation. Agencies will also have their Water Year 2022/2023 block water allotment under the RPA available during the fall/winter Chinook salmon spawning season to supplement flows if needed, given hydrologic conditions in the Eel River watershed.

Overall, the ability of the DWG to adjust flow releases would provide the opportunity to take advantage of any increases in available water storage due to storm activity and resulting runoff during the late spring and fall/winter season. Such increases in base flow could be directed towards benefitting aquatic resources, particularly Chinook salmon and steelhead trout upmigrants and spawners.

East Branch Russian River (EBRR)

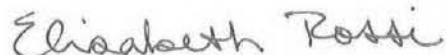
The primary fish species of interest in the EBRR downstream of the powerhouse is resident rainbow trout (*O. mykiss*). Both natural origin and hatchery rainbow trout inhabit this stream reach. CDFW regularly plants catchable resident rainbow trout to support the local sport fishery. Under the variance, flows in the EBRR would be reduced from Normal to Critical classification (75 cfs to between 25 cfs and 5 cfs), resulting in a reduction in habitat for rainbow trout and other aquatic species. In turn, this would likely result in reduced sport fishing opportunities for the duration of the variance.

Conclusion

Due to persistent dry conditions, PG&E respectfully requests the above flow variance to avoid reaching critical minimum pool at Lake Pillsbury. Enclosed with this request is the consultation record. Responses were received from CDFW and NMFS which are also attached. Enclosure 1 is the consultation record for the draft proposal provided to Agencies on May 9, 2022. Enclosure 2 is the consultation record for the draft proposal provided to Agencies on March 31, 2022.

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

Sincerely,



(Elisabeth Rossi, for)
Will Landreth, P.E.
Interim Manager, FERC and DSOD Compliance

Enclosures:

1. Agency Consultation Record March 31, 2022, Proposal
2. Agency Comments May 9, 2022, Proposal

Enclosure 1

From: [Joshua Fuller - NOAA Federal](#)
To: [Pope, Jackie](#)
Cc: [Renger, Allan@Wildlife](#); [Bovce, Josh](#); [Tom Daugherty - NMFS](#); [wsmith@rvit.org](#); [Scott McBain](#); [Myers, Matt@Wildlife](#); [Matt Goldworthy - NOAA Federal](#); [Anderson, Andrew](#); [Lent, Michelle](#); [Cheslak, Edward](#); [Rossi, Elisabeth](#); [Bob Coey](#); [Jeffrey Jahn](#)
Subject: Re: Potter Valley Variance Request
Date: Friday, May 13, 2022 9:12:01 AM
Attachments: [image001.png](#)
[image002.png](#)
[image004.png](#)
[image005.png](#)

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

Hi Jackie,

Thank you for the opportunity to review and comment on PG&E's *Potter Valley Project (FERC No. 77) 2022 Flow Variance Request Due to Limited Water Availability*, received via email on May 10, 2022. The National Marine Fisheries Service (NMFS) supports the need for a variance to conserve water storage within Lake Pillsbury that ensures suitable flow conditions for federally ESA-listed salmonids that occupy stream reaches downstream of Scott Dam, while protecting project infrastructure and providing for other water supply demands in the Russian River.

NMFS also appreciates PG&E's efforts to maintain at least 30k acre-ft within Lake Pillsbury through September 15, 2022, to limit depletion of the coldwater pool. However, without advanced management tools, NMFS recognizes the uncertainty with maintaining cooler water released from Lake Pillsbury that provides suitable summer temperature conditions for ESA-listed salmonids below Scott Dam when storage levels near or descend below 30k acre-ft. Therefore, we acknowledge that the best available information to maintain suitable summer temperatures for coldwater salmonids is limited and we strongly encourage that PG&E pursues completion of the water quality model that was proposed by PG&E and approved by FERC during the relicensing process. NMFS has also made this request on multiple occasions during previous drought variance efforts and included it as an *Interim Protective Measure* in NMFS' letter submitted to FERC, dated March 17, 2022. A properly developed water quality/temperature model will inform reservoir management and provide resource managers with the best water management strategies to conserve cooler water for federally ESA-listed salmonids, while balancing water storage in Lake Pillsbury that also supports water interests in the Russian River.

NMFS objects to the omission of several terms and conditions provided to PG&E by Round Valley Indian Tribes, California Fish and Wildlife, United States Fish and Wildlife Service, and NMFS during initial draft versions of this drought variance request. These natural resource entities have worked tirelessly and collaboratively with PG&E through multiple drought variances (7 of the past 9 years) with a very balanced approach to meeting the demands on the project. We have collectively identified key information and data gaps that help us finetune the challenges faced with the uniqueness of each drought variance we've experienced over the years. At minimum, NMFS strongly recommends that PG&E continues to fund the mainstem Eel River DIDSON through the duration of this drought variance and provide funding for the Middle Fork Eel River DIDSON, as requested, so we can properly manage project operations during the adult fall-run Chinook salmon spawning and migration season. Lastly, NMFS, again, strongly recommends that PG&E pursues completion of the water quality model partially developed during the relicensing process or an equivalent alternative to better inform reservoir management for federally ESA-listed salmonids.

Please contact me with any questions or comments.

Sincerely,

Josh F.

On Fri, May 13, 2022 at 8:41 AM Pope, Jackie <JHPL@pge.com> wrote:

Good Morning,

I wanted to follow-up with agencies, are you able to provide comments today? Are there any questions we need to address?

Thank you,



Jackie Pope | Hydro License Coordinator | Power Generation

Pacific Gas and Electric Company

Phone: (530) 254-4007

Email: jhpl@pge.com

From: Pope, Jackie

Sent: Tuesday, May 10, 2022 8:11 PM

To: Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>; Boyce, Josh <josh_boyce@fws.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; wsmith@rvit.org; Scott McBain <scott@mcbainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>

Cc: Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Cheslak, Edward <EFC3@pge.com>; Rossi, Elisabeth <EBR8@pge.com>

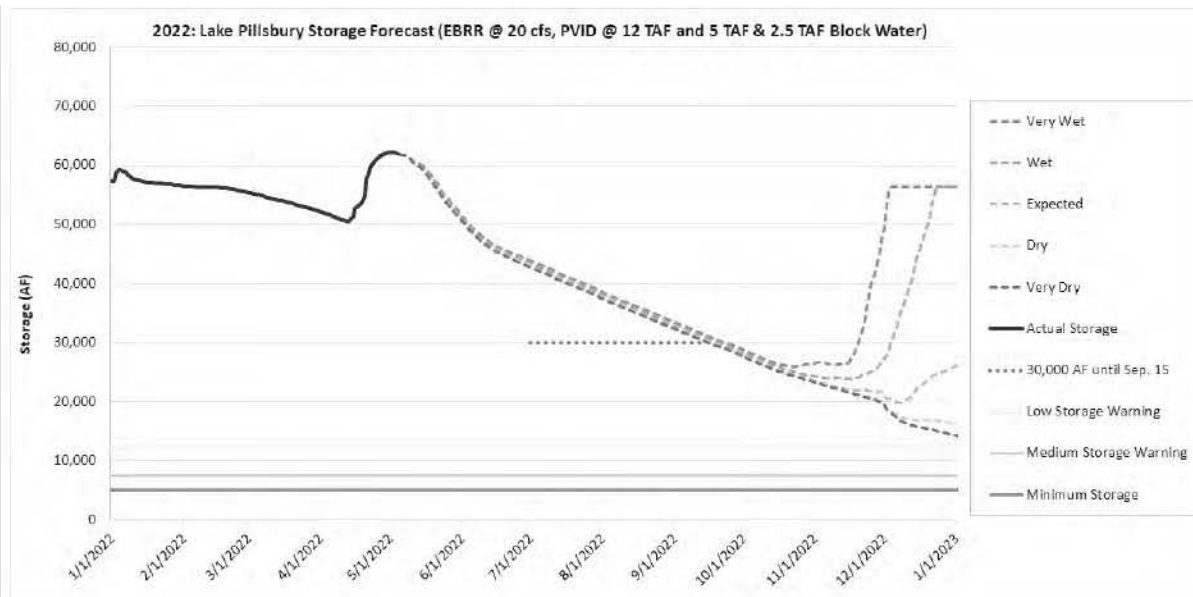
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Thank you for meeting with us today to discuss the upcoming variance request.

I spoke with Michelle and the scenario included in the attached variance assumes that FERC approves the variance June 1st, including 15 days at RPA required flows.

Michelle was kind enough to run the scenario with the assumption that 30 days at current RPA required flow levels in hopes that we gain approval from FERC on or before 6/15. We are meeting the 30 TAF on 9/15 in the very dry scenario.

		Very Dry Alt Computed EOD	Dry Alt Computed EOD Storage	Expected Alt Computed EOD	Wet Alt Computed EOD Storage	Very Wet Alt Computed EOD
2	Date					
352	9/15/2022	30,087	30,161	30,301	30,784	31,199
353	9/16/2022	29,930	30,004	30,144	30,627	31,044



Please review the attached draft variance request, please provide comments by COB (5pm) May 12.

Respectfully,



Jackie Pope | Hydro License Coordinator | Power Generation

Pacific Gas and Electric Company

Phone: (530) 254-4007

Email: jhpl@pge.com

From: Pope, Jackie

Sent: Monday, May 9, 2022 6:09 PM

To: Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>; Boyce, Josh <josh_boyce@fws.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; wsmith@rvit.org; Scott McBain <scott@mc bainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>

Cc: Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Cheslak, Edward <EFC3@pge.com>; Joseph, Matthew <MWJA@pge.com>; Rossi, Elisabeth <EBR8@pge.com>

Subject: Potter Valley Variance Request

Importance: High

Thank you for your comments regarding the Potter Valley Variance Request. We incorporated changes to the projections for the allocations based on the recent inflow in the attached amended request attached. Additionally, PG&E responded to the comments in the attached comments matrix and incorporated some agency comments/edits; see redline edits in the attached word document, the clean version is attached as a PDF.

PG&E recommends the scenario displayed below (found in the attached request Figure 2):

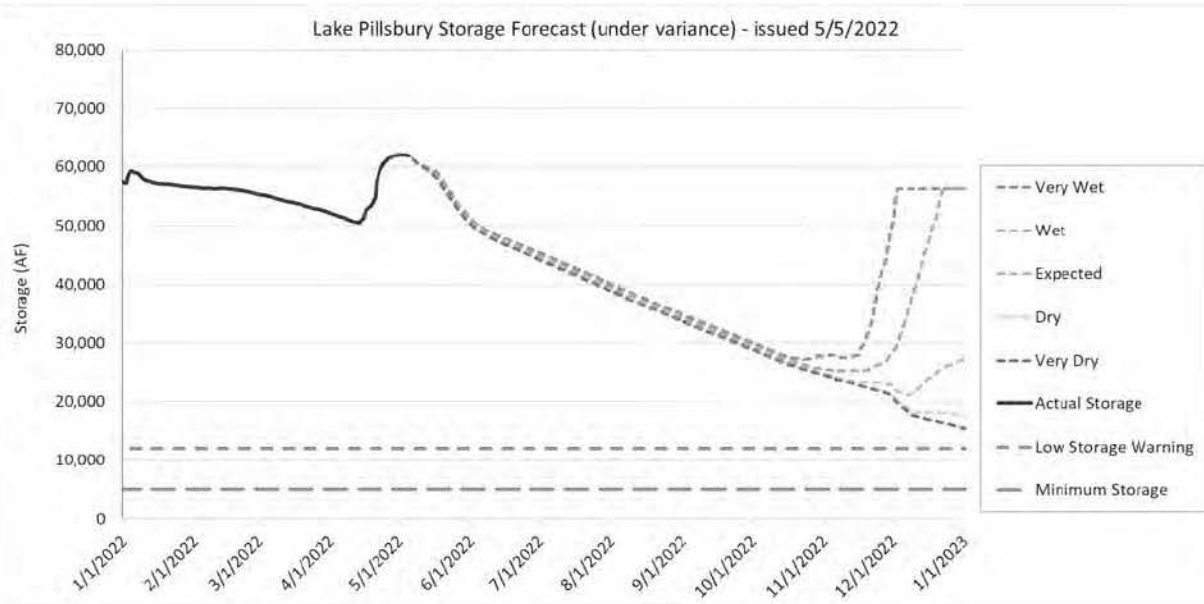


Figure 2. Lake Pillsbury forecast under variance for different hydrologic conditions. The scenario assumes 12 TAF PVID allotments and 20 cfs target flow for E-16. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on May 5, 2022. Note: Drawdown projection includes a 5 TAF block water release assumed to occur in the spring of 2022 and a 2.5 TAF block water release in the fall of 2022.

PG&E leadership reviewed additional biological monitoring requested by agencies and is willing to support the didson monitoring on the mainstream of the Eel, like what PG&E provided during the 2021 variance, and spot temperature measurements in Eel River at Benmore and Trout Creeks.

PG&E plans to submit the attached request to FERC **on May 12th**. Please provide any additional comments by COB (5 pm) **on May 11th**.

We hope to meet with Agencies tomorrow, May 10th at 12:30 to discuss this request.

Thank you for your flexibility and patience through this process.

Respectfully,



Jackie Pope | Hydro License Coordinator | Power Generation

Pacific Gas and Electric Company

Phone: (530) 254-4007

Email: jhpl@pge.com

From: [Myers, Matt@Wildlife](mailto:Myers_Matt@Wildlife)
To: [Pope, Jackie](mailto:Pope_Jackie); [Renger, Allan@Wildlife](mailto:Renger_Allan@Wildlife); Joshua Fuller - NOAA Federal; Boyce, Josh; Tom Daugherty - NMFS; wsmith@rvit.org; Scott McBain; Matt Goldsworthy - NOAA Federal
Cc: [Anderson, Andrew](mailto:Anderson_Andrew); [Lent, Michelle](mailto:Lent_Michelle); [Cheslak, Edward](mailto:Cheslak_Edward); [Rossi, Elisabeth](mailto:Rossi_Elisabeth)
Subject: RE: Potter Valley Variance Request
Date: Friday, May 13, 2022 11:22:21 AM
Attachments: [image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

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Jackie,

The California Department of Fish and Wildlife (Department) staff have reviewed PG&E's *Potter Valley Project (FERC No. 77) 2022 Flow Variance Request Due to Limited Water Availability*, received via email on May 10, 2022. The Department supports this variance to help conserve water storage in Lake Pillsbury and to help meet temperature needs for the federally ESA-listed salmonids in the Eel River. However, the Department reiterates our request for this variance and from previous variances, the need for the water quality model that was proposed by PG&E and approved by FERC during the relicensing process. This tool would allow the Drought Working Group participants to analysis different flow scenarios in order to balance the needs of ESA-listed salmonids and the needs for water supply in the Russian River basin. Without it, we are just guessing and hoping for the best.

Matt Myers
Senior Environmental Scientist
California Department of Fish and Wildlife

From: Pope, Jackie <JHPL@pge.com>
Sent: Friday, May 13, 2022 8:35 AM
To: Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>; Boyce, Josh <josh_boyce@fws.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; wsmith@rvit.org; Scott McBain <scott@mc bainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>
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Sent: Tuesday, May 10, 2022 8:11 PM
To: Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>; Boyce, Josh <josh_boyce@fws.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; wsmith@rvit.org; Scott McBain <scott@mc bainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>
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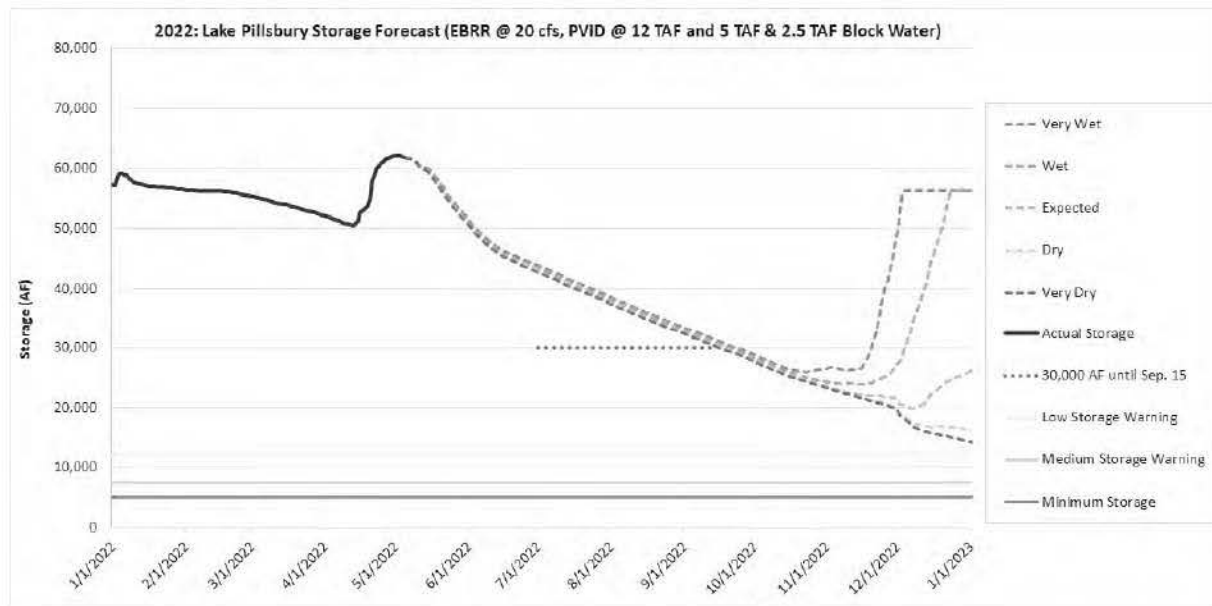
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Sent: Monday, May 9, 2022 6:09 PM
To: Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>; Boyce, Josh <josh_boyce@fws.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; wsmith@rvit.org; Scott McBain <scott@mc bainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>
Cc: Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Cheslak, Edward <EFC3@pge.com>; Joseph, Matthew <MWJA@pge.com>; Rossi, Elisabeth <EBR8@pge.com>
Subject: Potter Valley Variance Request
Importance: High

Thank you for your comments regarding the Potter Valley Variance Request. We incorporated changes to the projections for the allocations based on the recent inflow in the attached amended request attached. Additionally, PG&E responded to the comments in the attached comments matrix and incorporated some agency comments/edits; see redline edits in the attached word document, the clean version is attached as a PDF.

PG&E recommends the scenario displayed below (found in the attached request Figure 2):

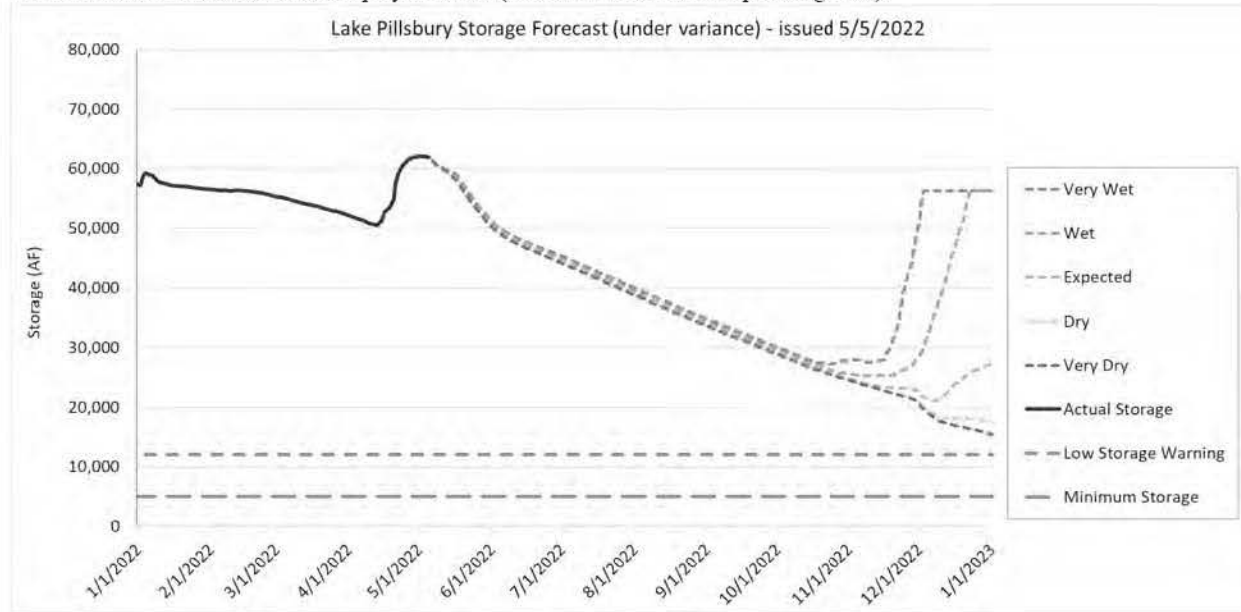


Figure 2. Lake Pillsbury forecast under variance for different hydrologic conditions. The scenario assumes 12 TAF PVID allotments and 20 cfs target flow for E-16. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on May 5, 2022. Note: Drawdown projection includes a 5 TAF block water release assumed to occur in the spring of 2022 and a 2.5 TAF block water release in the fall of 2022.

PG&E leadership reviewed additional biological monitoring requested by agencies and is willing to support the didson monitoring on the mainstream of the Eel, like what PG&E provided during the 2021 variance, and spot temperature measurements in Eel River at Benmore and Trout Creeks.

PG&E plans to submit the attached request to FERC **on May 12th**. Please provide any additional comments by COB (5 pm) **on May 11th**.

We hope to meet with Agencies tomorrow, May 10th at 12:30 to discuss this request.

Thank you for your flexibility and patience through this process.

Respectfully,



Jackie Pope | Hydro License Coordinator | Power Generation

Pacific Gas and Electric Company
 Phone: (530) 254-4007
 Email: jhpl@pge.com

Enclosure 2

McBain <scott@mcbainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>; Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Cheslak, Edward <EFC3@pge.com>
Subject: RE: Meeting to discuss Potter Valley Variance

*****CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*****

Hi Jackie,

Thanks for the opportunity to review and comment on the draft variance. The comments provided by NOAA are inclusive of comments from CDFW PVP staff (Allan Renger and Matt Myers). CDFW concurrence to the final variance request from PG&E to FERC will be evaluated by CDFW Region 1 managers.

Thanks -Allan

Allan Renger

Fisheries Supervisor

1487 Sandy Prairie Court, Suite A, Fortuna, CA 95540

Cell (707) 834-4359

CALIFORNIA DEPARTMENT OF
FISH and WILDLIFE 

From: Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>
Sent: Friday, April 8, 2022 12:45 PM
To: Pope, Jackie <JHPL@pge.com>
Cc: Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Boyce, Josh <josh_boyce@fws.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; wsmith@rvit.org; Scott McBain <scott@mcbainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>; Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Cheslak, Edward <EFC3@pge.com>
Subject: Re: Meeting to discuss Potter Valley Variance

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hi Jackie -

Please see NMFS' comments attached. These comments include input from the other Agencies, but might not be totally inclusive. So, please confirm with them.

Thanks for the opportunity to review and comment.

Best,

Josh F.

On Thu, Mar 31, 2022 at 4:27 PM Pope, Jackie <JHPL@pge.com> wrote:

Greetings Agency Partners,

Please see the attached draft variance for your review. Please provide your comments in track changes and let us know if you need to discuss any details or if this request warrants an additional meeting.

We hope you can provide your comments **by April 6 at 5 pm.**

Please let us know if you have any questions or concerns.

Thank you,



Jackie Pope | Hydro License Coordinator | Power Generation

Pacific Gas and Electric Company

Phone: (530) 254-4007

Email: jhpl@pge.com

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*Joshua Fuller*

*North Coast Branch*

*California Coastal Office*

*NOAA Fisheries West Coast Region*

*U.S. Department of Commerce*

*777 Sonoma Ave., Rm. 325*

*Santa Rosa, CA 95404*

*Office: 707-575-6096*

*[Joshua.Fuller@noaa.gov](mailto:Joshua.Fuller@noaa.gov)*

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Joshua Fuller

North Coast Branch

California Coastal Office

NOAA Fisheries West Coast Region

U.S. Department of Commerce

777 Sonoma Ave., Rm. 325



Power Generation

245 Market Street
San Francisco, CA 94105

Mailing Address:
Mail Code N11D
P.O. Box 770000
San Francisco, CA 94177

April XX, 2022

Via Electronic Submittal (E-Filing)

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

**Re: Potter Valley Project (FERC No. 77)
2022 Flow Variance Request Due to Limited Water Availability**

Dear Secretary Bose:

Please consider this letter a request for a flow variance for Pacific Gas and Electric Company's (PG&E) Potter Valley Project (Project), Federal Energy Regulatory Commission (FERC) No. 77. Due to persistent dry conditions, Lake Pillsbury, the storage reservoir for the Project, is not expected to fill this year. PG&E requested an early gate closure for Scott Dam from the Department of Water Resources' Division of Safety of Dams (DSOD) this year, but the gates were not closed early enough and the reservoir did not receive enough inflow to rise above spill crest, PG&E closed the radial gates on April 2, 2022, as allowed by the storage certificate issued by DSOD; however, it is not expected that the storage will increase above current levels based on the most recent inflow forecast developed by the California Nevada River Forecast Center.

Commented [A1]: Following approval.... We'll likely need to request much earlier gate closures when spilling and the long range weather forecast is dry... see modeling scenario term below.
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As of April 11, 2022, the estimated storage in Lake Pillsbury was approximately 51 Thousand Acre Feet (TAF), less than 70% of its total storage capacity of 75 TAF. The storage forecast shows the reservoir has likely entered dry season drawdown [Figure 1]. Under license-required flows, the reservoir is expected to be drawn down to critical minimum pool by the end of summer.

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Lake Pillsbury Minimum Pool

As a condition of a prior flow variance for the Project issued on July 15, 2016, FERC required PG&E to "determine the current low level operation constraints at Lake Pillsbury (beyond operator recommendations) that support a low reservoir elevation level." To address this requirement, PG&E submitted to FERC on April 3, 2017 a Technical Memo (TM) that identified and evaluated potential dam safety and operational constraints on lowering the operating level. The TM found a high potential of bank sloughing exists at

pool levels between 5 and 12 TAF; the degree of bank sloughing is partially dependent on the drawdown rate of the reservoir.

Current and Forecasted Conditions

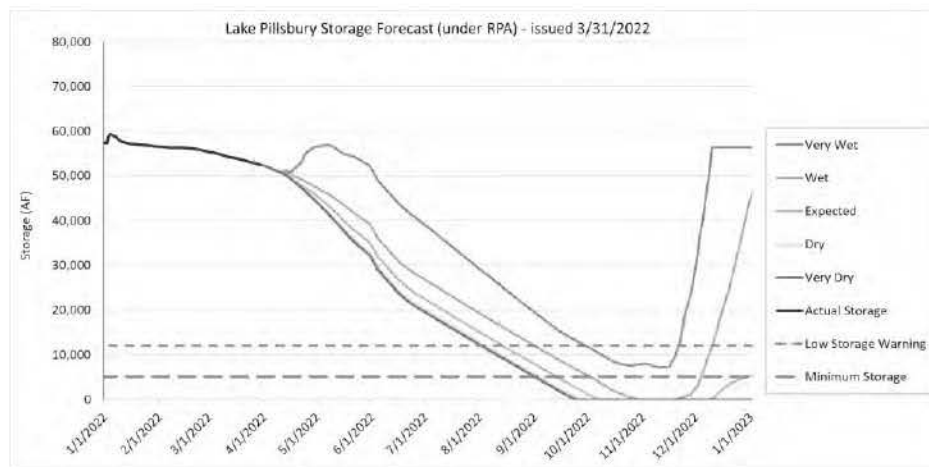


Figure 1. Lake Pillsbury forecast under license-required releases for different hydrologic conditions. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on March 31, 2022 Note: Drawdown projection includes a 5 TAF spring block water release beginning June 1 (2022 2.5 TAF block water release plus the 2021 carryover block water release) and a 2023 2.5 TAF block water release in the fall beginning December 1.

The California Department of Fish and Wildlife (CDFW), US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and Round Valley Indian Tribes (RVIT) (hereafter Agencies) provided input to PG&E on the following variance proposal, and PG&E requests that it take effect as soon as FERC approves the request.

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- Commented [A2]: Please also note the volume of water used for frost protection.
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- Commented [A3]: This sounds like the agencies are requesting this variance, so I re-worded so that it is clearly PG&E that is requesting the variance, and we provided input. Sound ok?

Agency Consultation

Given the risk that providing Project License-required flows will lead to destabilizing drawdown rates and, in the worst case, reaching critical minimum pool at Lake Pillsbury, PG&E has been in consultation with Agencies and other interested stakeholders.

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On March 3, 2022, PG&E held the 2022 Potter Valley Annual Biological Monitoring Meeting with Agencies. During the meeting, Agencies and PG&E agreed that in the absence of significant storm runoff, flow reductions would be necessary to conserve water in Lake Pillsbury and provide flow and water quality conditions necessary to protect salmonids in the Eel River and to avoid bank sloughing at Lake Pillsbury. PG&E provided Agencies a draft variance proposal on March 31, 2022.

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Proposed Variance

Article 52 of the Project License requires PG&E to comply with the NMFS Reasonable and Prudent Alternative (RPA) that was made part of the license by FERC’s “Order Amending License, issued January 28, 2004.”

Below is a summary of the license-required and contract flows for 2022.

Table 1: License and Contract flows for 2022

Compliance Point	4/1 Requirement (cfs) without variance	5/1 Requirement (cfs) without variance	Expected 6/1 Requirement (cfs) without variance	Classification*
Eel River below Scott Dam (E-2)	100 cfs	100 cfs	60 cfs	Normal
Eel River below Cape Horn Dam (E-11)	Value depends on Eel Index Flow	Value depends on Eel Index Flow.	Summer flow is 9 cfs beginning on August 1.	Dry
East Branch Russian River (E-16)	35 cfs	35 cfs	75 cfs (40 cfs)**	Normal (Dry Spring Exclusion)
Potter Valley Irrigation District	5 cfs	50 cfs	50 cfs	N/A

*While classification for E-11 occurs on May 15th and classification for E-2/E-16 occurs on June 1st the classification shown should not change.

**40 cfs would occur under Dry Spring Exclusion where Lake Pillsbury inflow in April and May is less than 20 TAF.

The upper Eel River contains habitat for Chinook salmon (*Onchorhynchus tshawytscha*) and steelhead trout (*O. mykiss*), both of which are listed as threatened under the Endangered Species Act (ESA). Under this variance, modifications to the minimum flows on the Eel River below Cape Horn Dam are not proposed and modifications to minimum flows below Scott Dam are within thresholds previously evaluated under the RPA.

The release obligations from expected Normal (with likely Dry Spring Exclusion if no substantial precipitation occurs) classification at E-2/E-16 and Dry classification at E-11 combined with normal water deliveries to PVID are forecasted to draw down Lake Pillsbury to critical levels by the end of the summer.

The following variance conditions will be in effect:

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Commented [A4]: CLP is 190 TAF, so E-2/E-16 is certain for Normal (>160 TAF on June 1), and we'll never get above 309 TAF for Wet year for E-11, so we're solidly in Dry for E-11. In other words, no uncertainty

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- Potter Valley Irrigation District (PVID) delivery schedule to be reclassified to 'Exceptionally Low Inflow' and limited to 5.5 TAF from April 15 – October 15, 2022 as long as a target storage of 30 TAF can be achieved through August 31. PG&E reserves the right to seek further reduced deliveries if updated drawdown trajectories show the reservoir going below 12 TAF before November 30, 2022 (>12 TAF) or at the discretion of the Agencies.
- After October 16, 2022, PVID will continue demand-based delivery, limited to an average of 3 cfs.
- Gaging Station E-16 will go to a target flow with no buffer rather than a minimum flow with buffer.
- Gaging Station E-16: Reduce minimum environmental flows from 25 cfs to 5 cfs (no buffer).
- The drought variance will end when Lake Pillsbury storage exceeds 36 TAF following October 1, 2022, or is superseded by another variance. This storage threshold would allow the reservoir to meet minimum flow obligations, including a possible block water release, through January 2023 in the event of extremely low inflow in early winter.
- Provide Agencies discretion to use the 2021 roll-over 2.5 TAF of block water PG&E committed to in the 2021 Flow Variance Request (submitted to FERC on April 23, 2021). This agreement will not affect the license-required annual allotment for 2022 of 2.5 TAF of block water, or the 2.5 TAF allotment for 2023.
- Provide Agencies with any unused WY2022 block water due to this variance and/or drought constraints in WY2023. This includes roll-over block water allocated in the 2021 Flow Variance Request. Block water will be implemented at the discretion of the resource agencies in coordination with PG&E as per the RPA.
- PG&E will collect bi-weekly Lake Pillsbury vertical temperature profiles at Scott Dam, starting after May 1 through September 30, 2022. Temperature data will be incorporated into a spreadsheet model for comparison with historical temperature profiles and elevation and used to inform flow adjustments throughout the variance period. This information will be distributed to the DWG prior to bi-weekly meetings.
- PG&E will conduct water temperature modeling scenarios including earlier wet-season gate closures utilizing current weather forecasting skill to evaluate the benefits to cooler reservoir temperatures and water storage during the dry season. Results from these modeling scenarios will be provided to the resource agencies no later than October 1, 2022.
- PG&E will conduct bi-weekly spot check temperature surveys in coordination with the Agencies at select locations (TBD) between Scott Dam and VAFS, including

Commented [A5]: Spreadsheet assumes May 1

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Commented [A8]: No buffer?

Commented [A9R8]: Sounds reasonable

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Commented [A10]: Need to re-write... this needs to at the discretion of the resource entities. NMFS does not agree w/ 50TAF restriction.

Commented [A11R10]: Yeah, and it will be below 50TAF soon (51 TAF now)

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tributaries, to determine flow and habitat suitability for salmonids during the dry season.

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- PG&E will continue to monitor adult salmonid passage at Van Arsdale Fisheries Station at Cape Horn Dam throughout the variance period and to provide data to the DWG upon request.

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- PG&E will provide funding for CDFW's adult salmonid DIDSON monitoring effort on the mainstem Eel River, at minimum, for the period of October 1 - December 31, 2022 as part of this variance. If the variance is needed following December 31, 2022, PG&E will continue to provide DIDSON funding until the variance ends or is superseded by another variance. PG&E will provide funding for the adult salmonid DIDSON monitoring effort on the Middle Fork Eel River for the period of October 1 - December 31, 2022 or until this variance ends.

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Commented [A12]: This should be included in the annual monitoring per the 2002 BiOp and RPA and NOT included in this variance.

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- PG&E will monitor juvenile and adult salmonid outmigration through the Van Arsdale Fisheries Station at Cape Horn Dam until June 1, 2022. Outmigrant trapping to begin ASAP.

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- PG&E may be required to rescue and relocate post-spawn steelhead trout (kelts) if Cape Horn Dam is determined to be unnavigable due to low bypass flows for downstream migration.

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- DWG will meet twice monthly, during the variance period to discuss storage levels, release flow rates, water temperature profiles, release temperatures, estimated temperature projections at E-2.

- PG&E will submit monthly storage and water temperature reports to FERC.

- PG&E will re-evaluate and commit to longer-term variance operations, including Interim Protective Measures prescribed by the Agencies, to minimize the likelihood of reoccurring (7 out of the last 9 years) drought variances in the future.

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Table 2: Range of flow values allowed by variance, assuming a May 1, 2022 variance start date.

Compliance Point	Allowed Range: Min / Max	Water Year Classification	Notes
Eel River below Scott Dam (E-2)	20 cfs / No max.*	Critical	Adjusted from Normal classification
Eel River below Cape Horn Dam (E-11)	9 cfs (plus buffer) / No max.	Dry**	No change

Commented [A14]: Max set by resource agencies on a weekly basis. Max release rate will, in part, be determined by the previous week's average release temp at E-2 and temperature suitability for salmonids downstream of Scott Dam.

Commented [A15R14]: Not sure this is feasible, are we really going to meet weekly to do this?

East Branch Russian River (E-16)	1 cfs/5 cfs (no buffer)	Critical	Adjusted from Normal classification
Potter Valley Irrigation District	No min. / 15 cfs (no buffer)	N/A	Total of 5.5TAF from May 1-October 15, 2022, if 30TAF Aug. 31 target is met.

Commented [A17R16]: Seems like it is needed. I added min, max, target
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 Commented [A16]: Is this needed?

*Flows at E-2 largely driven by minimum needle valve release capability of approximately 35 cfs.
 **Expected E-11 classification for WY2022 is Dry, however, the final classification won't be determined until May 15th.

Under the proposed variance, the reservoir is expected to remain above 12 TAF through November 30, 2022 [Figure 2]. An additional variance that addresses fall and winter flows may be necessary to maintain the reservoir above the level where bank stability issues arise, or at least slow the drawdown to a safe rate.

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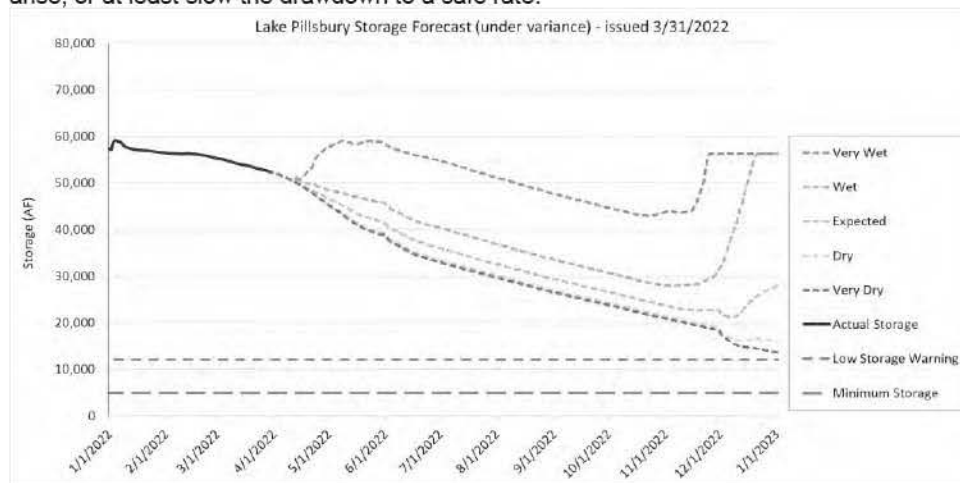


Figure 2. Lake Pillsbury forecast under proposed variance flow releases for different hydrologic conditions. Lake Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on April 8, 2022. Note: Drawdown projection includes a 2.5 TAF block water release assumed to occur in the spring of 2022 (beginning June 1) and a 2.5 TAF block water release in the fall of 2022 (beginning December 1). The overall use of the 5 TAF block water can be used at any time in 2022 at the discretion of the Agencies.

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Biological Impacts

PG&E biologists have reviewed this variance proposal and believe that the proposed drought flow variance is necessary to conserve water in Lake Pillsbury and provide

adequate flow releases and suitable water quality conditions for the long-term protection of Chinook salmon and steelhead trout in the watershed. Below is their biological analysis.

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Commented [A18]: It seems like we should put some background in the next paragraph that provides context for the year: 1) good watershed access for chinook spawning due to October-December high flow, 2) likely good chinook fry production due to lack of scouring flows, assuming no redd desiccation, and 3) tons of adult steelhead (fresh and kelts) currently in the river that is likely experiencing the lowest flows on record at this time of year.

Eel River below Lake Pillsbury and Van Arsdale Reservoir

The primary ESA-listed fish species impacted by the Potter Valley Project are Chinook salmon (*Onchorhynchus tshawytscha*) and steelhead trout (*O. mykiss*). 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 (pre- and post- spawn), and juvenile Chinook salmon and steelhead trout. If the variance extends beyond October, adult Chinook salmon will be present in the mainstem Eel River as well.

Adult steelhead trout migrate into the upper Eel River watershed to spawn primarily from January through April. Through March 27, 2022 of the current spawning season, 213 adult steelhead have been counted at Van Arsdale Fisheries Station at Cape Horn Dam. Under the proposed variance, flows in the Eel River for adult steelhead trout migration and spawning would not be reduced below the RPA-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 one 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 would not be affected by the variance. An increase in spring flows followed by a decrease to summer levels, as prescribed by the RPA, would still occur under the variance proposal, thus providing important migration cues for downstream migrating fish.

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Beginning on May 1, the requested variance would reduce minimum flows in the reach between Scott and Cape Horn dams to preserve storage in Lake Pillsbury. While this will reduce the available habitat area for summer rearing steelhead trout, minimum flows would remain above the E-2 "Critical" classification prescribed by the RPA while preserving more suitable water quality conditions. Summertime flow requirements in the Eel River below Cape Horn Dam under the proposed variance would remain unchanged from the RPA-prescribed "Dry" summer flow classification of 9 cfs, plus a buffer release.

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Transitioning into fall and winter, the proposed drought flow variance is the prudent action, given critical water levels in Lake Pillsbury and the unpredictability of storm activity and inflow conditions. Implementation of the proposed drought flow variance will conserve water in Lake Pillsbury, provided better water quality conditions below Scott Dam, and 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) due to changes in flow, high levels of turbidity, and sedimentation. Agencies will also have unused Water Year 2021/2022, block water allotment and new 2023 block water allotment

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under the RPA available during the fall/winter Chinook salmon spawning season to supplement flows if needed, given hydrologic conditions in the Eel River watershed.

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Overall, the ability of the DWG to adjust flow releases would provide the opportunity to take advantage of any increases in available water storage due to storm activity and resulting runoff during the late spring and fall/winter season. Such increases in base flow could be directed towards benefitting aquatic resources, particularly Chinook salmon and steelhead trout upmigrants and spawners.

East Branch Russian River (EBRR)

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 regularly plants catchable resident rainbow trout to support the local sport fishery. Under the variance, flows in the EBRR would be reduced from Normal to Critical classification (75 cfs to 5 cfs), resulting in a reduction in habitat for rainbow trout and other aquatic species. In turn, this would likely result in reduced sport fishing opportunities for the duration of the variance.

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Conclusion

Due to persistent dry conditions, PG&E respectfully requests the above flow variance to avoid reaching critical minimum pool at Lake Pillsbury. Enclosed with this request is the consultation record. Responses were received from CDFW, NMFS, USFWS, and RVIT, which are also attached.

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

Sincerely,

Will Landreth, P.E.
Interim Manager, FERC and DSOD Compliance

Comment Matrix
Potter Valley Variance Request

Comment No.	Page	Commenter (agency)	Comment	Response
1	1	NMFS; RVIT	Added text "gates were not closed early enough"	Gate closure is determined by DSOD, statement removed
2	1	NMFS; RVIT	Following approval.... We'll likely need to request much earlier gate closures when spilling and the long range weather forecast is dry... see modeling scenario term below.	The early gate closure is governed by DSOD, statement removed
3	3	NMFS; RVIT	This sounds like the agencies are requesting this variance, so I reworded so that it is clearly PG&E that is requesting the variance, and we provided input.	PG&E concurs
4	3	NMFS; RVIT	CLP is 190 TAF, so E-2/E-16 is certain for Normal (>160 TAF on June 1), and we'll never get above 309 TAF for Wet year for E-11, so we're solidly in Dry for E-11. In other words, no uncertainty	PG&E concurs
5	3	NMFS; RVIT	(with likely Dry Spring Exclusion if no substantial precipitation occurs)	PG&E concurs
6	4	NMFS; RVIT	Potter Valley Irrigation District (PVID) delivery schedule to be reclassified to 'Exceptionally Low Inflow' and limited to 5.5 TAF from April 15 – October 15, 2022 as long as a target storage of 30 TAF can be achieved through August 31. PG&E reserves the right to seek further reduced deliveries if updated drawdown trajectories show the reservoir going below 12 TAF before November 30, 2022 (>12 TAF) or at the discretion of the Agencies. <i>Comment This should be based on a storage target of 30K acre-ft Sept. 1 not an automatic water volume allocation. Rewrite this term to target 30K sept. 1.</i>	Based on improved storage situation in Pillsbury, the PVID allocation has increased to 12 TAF. This update is reflected in the updated variance request proposal submitted to agencies May 9, 2022
7	4	NMFS; RVIT	Gaging Station E-16 will go to a target flow with no buffer rather than a minimum flow with buffer.	PG&E concurs

Comment Matrix
Potter Valley Variance Request

8	4	NMFS; RVIT	Gaging Station E-16: Reduce minimum environmental flows from 25 cfs to 5 cfs (no buffer).	Based on improved storage situation in Pillsbury, the EBRR variance flow has increased 20 cfs, with flexibility to adjust flows between 5 cfs and 25 cfs to maintain storage targets. This update is reflected in the updated variance request proposal submitted to agencies May 9, 2022
9	4	NMFS; RVIT	Provide Agencies discretion to use the 2021 roll-over 2.5 TAF of block water PG&E committed to in the 2021 Flow Variance Request (submitted to FERC on April 23, 2021). This agreement will not affect the license-required annual allotment for 2022 of 2.5 TAF of block water, or the 2.5 TAF allotment for 2023.	PG&E agrees, with the caveat that this roll-over block water should be allocated only if the additional block water can be allocated safely at PG&E's discretion.
10	4	NMFS; RVIT	Provide Agencies with any unused WY2022 block water due to this variance and/or drought constraints in WY2023. This includes roll-over block water allocated in the 2021 Flow Variance Request. Block water will be implemented at the discretion of the resource agencies in coordination with PG&E as per the RPA.	PG&E agrees to roll-over one (1) block water (2.5 TAF) into WY 2023 if agencies are unable to use WY 2021 carryover or WY 2022 block water due to drought constraints with the caveat that this roll-over block water should be allocated only if the additional block water can be allocated safely at PG&E's discretion.
11	4	NMFS; RVIT	PG&E will conduct water temperature modeling scenarios including earlier wet-season gate closures utilizing current weather forecasting skill to evaluate the benefits to cooler reservoir temperatures and water storage during the dry season. Results from these modeling scenarios will be provided to the resource agencies no later than October 1, 2022.	This is outside the duration and scope of an annual drought variance; PG&E continues to provide additional water temperature data beyond what is required by the license.

Comment Matrix
Potter Valley Variance Request

12	4	NMFS; RVIT	PG&E will conduct bi-weekly spot check temperature surveys in coordination with the Agencies at select locations (TBD) between Scott Dam and Van Arsdale Fish Station, including tributaries, to determine flow and habitat suitability for salmonids during the dry season.	Access is limited in the reach between Scott and Cape Horn dams. PG&E agrees to perform spot temperature measurements in Eel River at Benmore and Trout Creeks in coordination with temperature profiles at Lake Pillsbury and provide agencies with bi-weekly temperature reports.
13	5	NMFS; RVIT	PG&E will provide funding for CDFW's adult salmonid DIDSON monitoring effort on the mainstem Eel River, at minimum, for the period of October 1 - December 31, 2022 as part of this variance. If the variance is needed following December 31, 2022, PG&E will continue to provide DIDSON funding until the variance ends or is superseded by another variance. PG&E will provide funding for the adult salmonid DIDSON monitoring effort on the Middle Fork Eel River for the period of October 1 - December 31, 2022 or until this variance ends.	PG&E will provide funding for CDFW's adult salmonid DIDSON monitoring effort on the mainstem Eel River above South Fork Eel for the period of October 1 - December 31, 2022, as part of this variance. Funding is expected to cover one staff technician at a similar level as was provided during the 2021 variance request.
14	5	NMFS; RVIT	PG&E will monitor juvenile and adult salmonid outmigration through the Van Arsdale Fisheries Station at Cape Horn Dam until June 1, 2022. Outmigrant trapping to begin ASAP.	PG&E concurs
15	5	NMFS; RVIT	PG&E may be required to rescue and relocate post-spawn steelhead trout (kelts) if Cape Horn Dam is determined to be unnavigable due to low bypass flows for downstream migration.	The intent is unclear. This situation is highly unlikely. We can discuss further with agencies, but only occurs if CHD fish ladder is inoperable, which is not expected to occur.
16	5	NMFS; RVIT	PG&E will submit monthly storage and water temperature reports to FERC.	The reporting requirement is determined by FERC

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17	5	NMFS; RVIT	PG&E will re-evaluate and commit to longer-term variance operations, including Interim Protective Measures prescribed by the Agencies, to minimize the likelihood of reoccurring (7out of the last 9 years) drought variances in the future.	This is outside the duration and scope of an annual drought variance.
18	5	NMFS; RVIT	Eel River below Scott Dam (E-2) 20 cfs / No max. Comment <i>Max set by resource agencies on a weekly basis. Max release rate will, in part, be determined by the previous week's average release temp at E-2 and temperature suitability for salmonids downstream of Scott Dam. Comment Not sure this is feasible, are we really going to meet weekly to do this?</i>	The actual E-2 release will be driven by releases for E-11, E-16 and PVID. It isn't necessary to set a maximum on E-2.
19	6	NMFS; RVIT	East Branch Russian River (E-16) 1 cfs/5 cfs (no buffer) Critical Adjusted from Normal classification Comment <i>Seems like it is needed. I added min, max, target</i>	PG&E will target flow to 20 cfs initially. Target release can be adjusted between 5 cfs and 25 cfs based on storage projections and in consultation with DWG.
20	6	NMFS; RVIT	Potter Valley Irrigation District No min. / 15 cfs (no buffer) N/A Total of 5.5TAF from May 1-October 15, 2022, if 30TAF Aug. 31 target is met.	The PVID allocation has increased based on recent inflow to 12 TAF, this update is reflected in the updated variance request proposal submitted to agencies May 9, 2022
21	6	NMFS; RVIT	April 8, 2022. Note: Drawdown projection includes a 2.5 TAF block water release assumed to occur in the spring of 2022 (beginning June 1) and a 2.5 TAF block water release in the fall of 2022 (beginning December 1). The overall use of the 5 TAF block water can be used at any time in 2022 at the discretion of the Agencies.	PG&E agrees, with the caveat that this roll-over block water should be allocated only if the additional block water can be allocated safely at PG&E's discretion.

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21	6	NMFS; RVIT	<p>PG&E biologists have reviewed this variance proposal and believe that the proposed drought flow variance is necessary to conserve water in Lake Pillsbury and provide adequate flow releases and suitable water quality conditions for the long-term protection of Chinook salmon and steelhead trout in the watershed. Below is their biological analysis. <i>Comment It seems like we should put some background in the next paragraph that provides context for the year: 1) good watershed access for chinook spawning due to October-December high flow, 2) likely good chinook fry production due to lack of scouring flows, assuming no redd desiccation, and 3) tons of adult steelhead (fresh and kelts) currently in the river that is likely experiencing the lowest flows on record at this time of year.</i></p>	<p>PG&E Concur; information added to the biological section.</p>
22	7	NMFS; RVIT	<p>Beginning on May 1, the requested variance would reduce minimum flows in the reach between Scott and Cape Horn dams to preserve storage in Lake Pillsbury. While this will reduce the available habitat area for summer rearing steelhead trout, minimum flows would remain above the E-2 "Critical" classification prescribed by the RPA while preserving more suitable water quality conditions.</p>	<p>PG&E concurs; This information is included in the variance request on page 7</p>