



*Pacific Gas and  
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April 23, 2021

**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)  
2021 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 early gate closure for Scott Dam from the Department of Water Resources' Division of Safety of Dams (DSOD) this year, but the reservoir did not receive enough inflow to rise above spill crest and, therefore, the gates were not closed early. PG&E closed the radial gates on April 6, 2021, 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 inflow forecast developed by the California Nevada River Forecast Center.

As of April 20, 2021, the estimated storage in Lake Pillsbury was 41.5 Thousand Acre Feet (TAF), less than 60% 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.

**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

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

Even with this proposed variance, projections show that Lake Pillsbury forecasted storage may go below the bank stability threshold later this year. If dry conditions persist and storage forecasts continue to trend towards critically low levels, PG&E will file an additional variance request or an adaptive measure to this variance with Agency approval.

**Current and Forecasted Conditions**

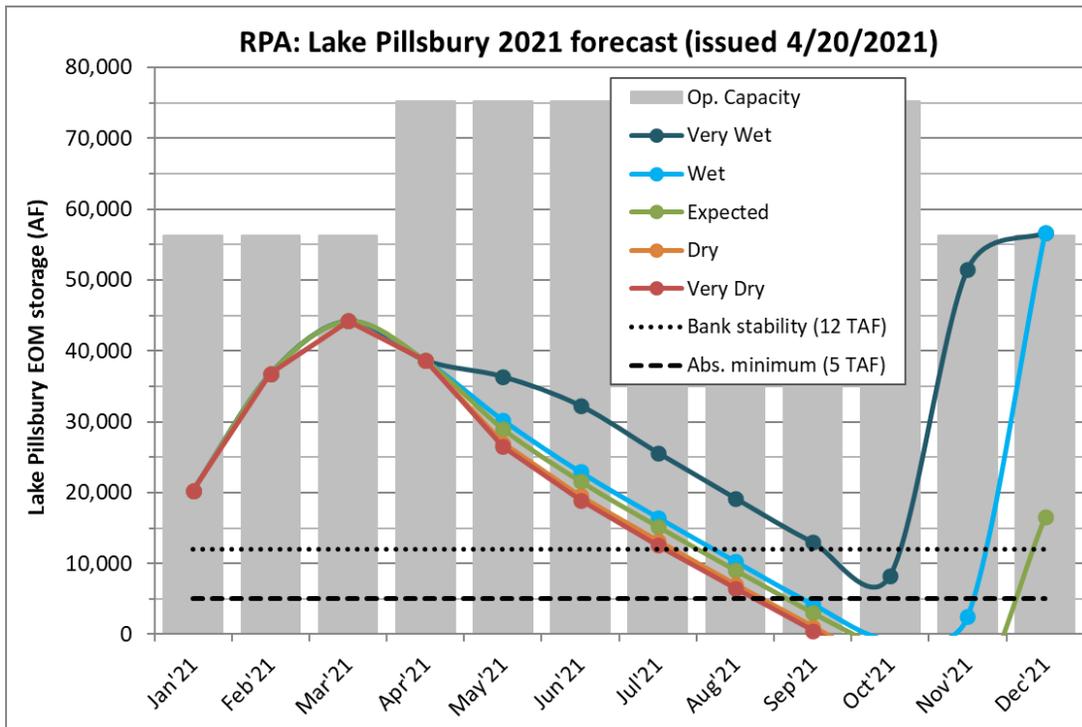


Figure 1. Lake Pillsbury forecast under license-required releases for different hydrologic conditions. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on April 20th, 2021. Note: Drawdown projection includes a 2.5 TAF spring block water release.

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

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## **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 April 1, 2021 PG&E hosted a collaborative conference call with Agencies to discuss the current situation. During that call, 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 for the continued release of water to protect salmonids in the Eel River and to avoid bank sloughing at Lake Pillsbury. PG&E provided Agencies a draft variance proposal on April 8, 2021; Agencies provided their responses on April 14, 2021. A call with NMFS to discuss potential impacts to endangered species was held on April 13, 2021. A call with Agencies was held on April 14, 2021 to discuss provisions of the variance. The Drought Working Group (DWG) convened on April 15, 2021 to discuss the drought conditions and the drought variance proposal PG&E and Agencies agreed upon. On April 16, 2021 Agencies, PG&E and local irrigation districts met to discuss impacts to local water use. A final meeting with agencies was held on April 22, 2021 to discuss terms of the variance and possible adaptive measures if drought conditions do not improve.

## **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 flows for 2021.

**Table 1: License and Contract flows 2021**

<b>Compliance Point</b>	<b>4/1 Requirement (cfs) without variance</b>	<b>Expected 5/1 Requirement (cfs) without variance</b>	<b>Classification</b>
<b>Eel River below Scott Dam (E-2)</b>	40 cfs	40 cfs	Dry
<b>Eel River below Cape Horn Dam (E-11)</b>	Value depends on Eel Index Flow	Value depends on Eel Index Flow. Summer flow is 3 cfs beginning on Aug. 1.	Very Dry
<b>East Branch Russian River (E-16)</b>	35 cfs	25 cfs	Dry
<b>Potter Valley Irrigation District</b>	50 cfs	50 cfs	N/A

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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). Modifications to the minimum flows on the Eel River below Cape Horn Dam are not proposed under this variance. Therefore, no variance-induced impacts will occur to listed species.

The following variance conditions will be in effect:

- Potter Valley Irrigation District (PVID) delivery schedule to be reclassified to 'Exceptionally Low Inflow' and limited to the equivalent of a 25 cfs allotment for the irrigation season (April 15 – October 15, 2021) which corresponds to a cap of 9,000 AF total. This volume will be available as demand-based delivery not to exceed 50 cfs. PG&E reserves the right to seek further reduced deliveries if updated drawdown trajectories show the reservoir going below 12,000 AF prior to November 30, 2021 (>12,000 TAF).
- After irrigation season ends (October 16, 2021), PVID will continue demand-based delivery, limited to an average of 3 cfs.
- Gaging Station E-16 will go to a target flow, rather than a minimum flow.
- Gaging Station E-16: Reduce minimum flows from 25 cfs to 5 cfs initially.
- Provide Agencies flexibility to use block water beyond October 1, 2021 at their discretion (i.e., rollover any unused WY2021 block water to the next water year).
- DWG to determine flow modifications within variance flow bounds (Table 2) guided by Lake Pillsbury storage forecast updates. 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, Agencies 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, 2021 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 2022 in the event of extremely low inflow in early winter.
- PG&E will collect bi-weekly Lake Pillsbury vertical temperature profiles at Scott Dam, starting after May 1 through September 30, 2021. 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 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 for the period of October 1 - December 31, 2021 as part of this variance.
- PG&E will monitor juvenile salmonid outmigration through the Van Arsdale Fisheries Station at Cape Horn Dam until June 1, 2021.
- DWG will meet twice monthly, at a minimum, 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 reports to FERC.

**Table 2: Range of flow values allowed by variance**

<b>Compliance Point</b>	<b>Allowed Range: Min / Max</b>	<b>Classification</b>	<b>Notes</b>
<b>Eel River below Scott Dam (E-2)</b>	40 cfs / No max.	Dry	No change
<b>Eel River below Cape Horn Dam (E-11)</b>	3 cfs / No max.	V. Dry	No change
<b>East Branch Russian River (E-16)</b>	5 cfs / 25 cfs	Critical / Dry	Adjusted from Dry classification
<b>Potter Valley Irrigation District</b>	No min. / 50 cfs	N/A	Shift to demand-based allocation with April 15-October 15 irrigation season cap of 9,000 AF

Under the proposed variance, the reservoir is expected to remain above 12,000 AF through November 30, 2021 [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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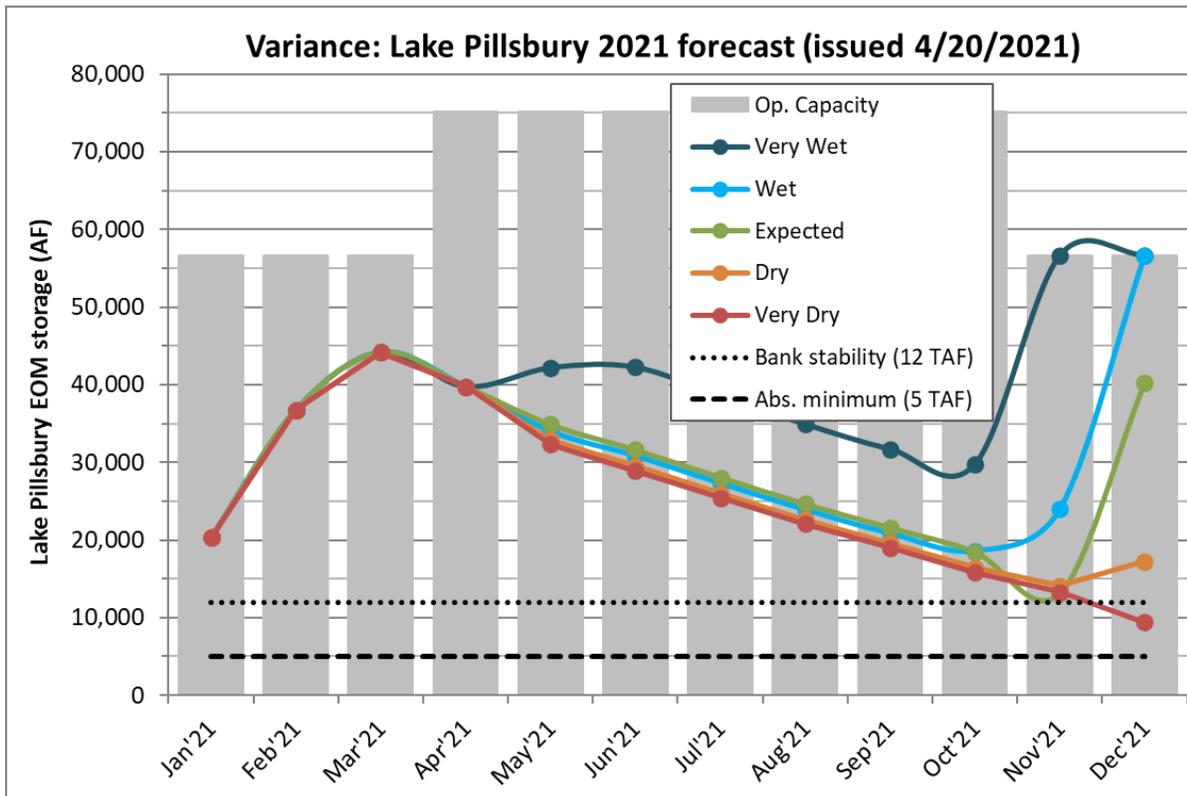


Figure 2. Lake Pillsbury forecast under proposed variance flow releases for different hydrologic conditions. Pillsbury inflow forecast downloaded from California Nevada River Forecasting Center on April 20, 2021. Note: Drawdown projection includes a 2.5 TAF block water release assumed to occur in December 2021.

**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 for the continued release of water for the long-term protection of Chinook salmon and steelhead 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, and juvenile Chinook salmon and steelhead. If the variance extends beyond October, adult Chinook salmon will be present in the mainstem Eel River as well.

Adult steelhead migrate into the upper Eel River watershed to spawn primarily from January to April. Through April 18, 2021 of the current spawning season, 203 adult steelhead have been counted at Van Arsdale Fisheries Station at Cape Horn Dam. Under

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the proposed variance, flows in the Eel River for adult steelhead 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, 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.

Summertime flow requirements in the Eel River under the proposed variance would remain unchanged from the RPA-prescribed "Very Dry" summer flow classification of 3 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, reducing 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) due to changes in flow, high levels of turbidity, and sedimentation. If storage conditions allow, Agencies will also have their Water Year 2021/2022 block water allotment under the RPA available during the fall/winter Chinook salmon spawning season to supplement flows if necessary, 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 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 wild 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 could be reduced from Dry to Critical classification (25 cfs to 5 cfs), resulting in a reduction in habitat for rainbow trout and other aquatic species. In turn, this would likely result in reduced sport fishing opportunities for the duration of the variance.

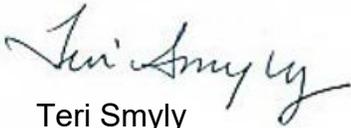
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## Conclusion

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, RVIT and the U.S. Fish and Wildlife Service, which are also enclosed.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Teri Smyly".

Teri Smyly  
Manager FERC Compliance

Enclosure:

1. Agency Concurrence

# ENCLOSURE 1

## Agency Concurrence

**From:** [Scott McBain](#)  
**To:** [Pope, Jackie](#); [Joshua Fuller - NOAA Federal](#); [Myers, Matt@Wildlife](#); [Tom Daugherty - NMFS](#); [Renger, Allan@Wildlife](#); [damon\\_goodman@fws.gov](#); [Matt Goldsworthy - NOAA Federal](#)  
**Cc:** [Rossi, Elisabeth](#); [Anderson, Andrew](#); [Lent, Michelle](#); [Colwell, Matthew](#); [Curtis Berkey](#); [katwillits@rvit.org](#); [Erica Costa](#)  
**Subject:** Concurrence of RVIT to 2021 Variance Proposal to FERC  
**Date:** Friday, April 23, 2021 9:05:54 AM

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

Hi Jackie

I have reviewed PG&E's April, 2021 Potter Valley Project (FERC No. 77) 2021 Flow Variance Request, and on behalf of the Round Valley Indian Tribes, hereby provide concurrence of the Variance Request. We appreciate the effort that PG&E has put into this variance, and the collaborative work with PG&E to develop a reasonable resolution for what is looking to be a difficult year for water availability and management.

Scott McBain  
Consultant to the Round Valley Indian Tribes

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**From:** Pope, Jackie <JHPL@pge.com>  
**Sent:** Friday, April 23, 2021 7:31 AM  
**To:** Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>; Scott McBain <scott@mcbainassociates.com>; Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; damon\_goodman@fws.gov; Matt Goldsworthy - NOAA Federal <matt.goldsworthy@noaa.gov>  
**Cc:** Rossi, Elisabeth <EBR8@pge.com>; Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Colwell, Matthew <MHCM@pge.com>  
**Subject:** RE: 2021 Variance Proposal to FERC

Good morning, please review the latest draft and provide input or concurrence.

Thank you,



**Jackie Pope** | Hydro License Coordinator | Power Generation

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**Pacific Gas and Electric Company**

Phone: (530) 254-4007

Email: [jhpl@pge.com](mailto:jhpl@pge.com)

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**From:** Joshua Fuller - NOAA Federal <[joshua.fuller@noaa.gov](mailto:joshua.fuller@noaa.gov)>  
**Sent:** Thursday, April 22, 2021 4:00 PM  
**To:** Pope, Jackie <[JHPL@pge.com](mailto:JHPL@pge.com)>

**From:** [Goodman, Damon](#)  
**To:** [Joshua Fuller - NOAA Federal](#); [Myers, Matt@Wildlife](#)  
**Cc:** [Pope, Jackie](#); [Scott McBain](#); [Tom Daugherty - NMFS](#); [Renger, Allan@Wildlife](#); [FW8 Arcata FWO NOAA - Matt Goldsworthy](#); [Rossi, Elisabeth](#); [Anderson, Andrew](#); [Lent, Michelle](#); [Colwell, Matthew](#)  
**Subject:** Re: [EXTERNAL] Re: 2021 Variance Proposal to FERC  
**Date:** Friday, April 23, 2021 10:04:19 AM

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Good morning Jackie -

Thank you for the opportunity to review PG&E's Potter Valley Project (FERC No.77) 2021 Flow Variance Request Due to Limited Water Availability, dated April 23, 2021. USFWS concurs with this variance request and appreciates PG&E's coordination and collaboration with the Agencies while working through this important issue. USFWS looks forward to continued coordination with PG&E on all matters pertaining to the Potter Valley Project and participation in the Drought Working Group.

Damon H. Goodman  
Fish Biologist - USFWS, Arcata, CA  
707-496-0529 cell

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**From:** Joshua Fuller - NOAA Federal <joshua.fuller@noaa.gov>  
**Sent:** Friday, April 23, 2021 10:00 AM  
**To:** Myers, Matt@Wildlife <Matt.Myers@wildlife.ca.gov>  
**Cc:** Pope, Jackie <JHPL@pge.com>; Scott McBain <scott@mcbainassociates.com>; Tom Daugherty - NMFS <Tom.Daugherty@noaa.gov>; Renger, Allan@Wildlife <Allan.Renger@wildlife.ca.gov>; Goodman, Damon <damon\_goodman@fws.gov>; FW8 Arcata FWO NOAA - Matt Goldsworthy <matt.goldsworthy@noaa.gov>; Rossi, Elisabeth <EBR8@pge.com>; Anderson, Andrew <A5AK@pge.com>; Lent, Michelle <M4LQ@pge.com>; Colwell, Matthew <MHCM@pge.com>  
**Subject:** [EXTERNAL] Re: 2021 Variance Proposal to FERC

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Good morning Jackie -

Thank you for the opportunity to review PG&E's Potter Valley Project (FERC No.77) 2021 Flow Variance Request Due to Limited Water Availability, dated April 23, 2021. NMFS concurs with this variance request and appreciates PG&E's coordination and collaboration with the Agencies while working through this important issue. NMFS looks forward to continued coordination with PG&E on all matters pertaining to the Potter Valley Project and participation in the Drought Working Group.

Best regards,

Josh F.

On Fri, Apr 23, 2021 at 9:10 AM Myers, Matt@Wildlife <[Matt.Myers@wildlife.ca.gov](mailto:Matt.Myers@wildlife.ca.gov)> wrote:

The California Department of Fish and Wildlife has reviewed PG&E's April, 2021 Potter Valley Project (FERC No. 77) 2021 Flow Variance Request and we concur with this variance. If you have any questions, please call myself or Allan Renger.

Matt Myers  
Senior Environmental Scientist (Specialist)  
California Department of Fish and Wildlife  
601 Locust St  
Redding, Ca 96001  
[Matt.Myers@wildlife.ca.gov](mailto:Matt.Myers@wildlife.ca.gov)  
530.225.3846  
530 638 6027 cell

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**Cc:** Rossi, Elisabeth <[EBR8@pge.com](mailto:EBR8@pge.com)>; Anderson, Andrew <[A5AK@pge.com](mailto:A5AK@pge.com)>; Lent, Michelle <[M4LQ@pge.com](mailto:M4LQ@pge.com)>; Colwell, Matthew <[MHCM@pge.com](mailto:MHCM@pge.com)>  
**Subject:** RE: 2021 Variance Proposal to FERC

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Good morning, please review the latest draft and provide input or concurrence.

Thank you,



**Jackie Pope** | Hydro License Coordinator | Power Generation

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

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**Cc:** Scott McBain <[scott@mcbainassociates.com](mailto:scott@mcbainassociates.com)>; Myers, Matt@Wildlife <[Matt.Myers@wildlife.ca.gov](mailto:Matt.Myers@wildlife.ca.gov)>; Tom Daugherty - NMFS <[Tom.Daugherty@noaa.gov](mailto:Tom.Daugherty@noaa.gov)>;

Document Content(s)

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2021-04-23\_0077\_PGE-To-FERC\_PV\_Drought\_Variance\_Req\_En1.PDF.....9