



State Water Resources Control Board

February 15, 2023

Mr. Hayden Cornwell
General Manager
South Sutter Water District
2464 Pacific Avenue
Trowbridge, CA 95659
Sent via E-mail: sswd@southsutterwd.com

**Camp Far West Auxiliary Spillway Project
Federal Energy Regulatory Commission Project No. 2997
Yuba and Placer Counties
Bear River**

DENIAL WITHOUT PREJUDICE OF WATER QUALITY CERTIFICATION FOR CAMP FAR WEST AUXILIARY SPILLWAY PROJECT

Dear Mr. Cornwell:

On February 17, 2022, South Sutter Water District (SSWD) submitted to the State Water Resources Control Board (State Water Board) a request for water quality certification (certification), pursuant to section 401(a)(1) of the Federal Clean Water Act (33 U.S.C. § 1341 et seq.), for the Camp Far West Auxiliary Spillway Project (Project). Waterbodies associated with the Project include Camp Far West Reservoir and the Bear River.

After review of the application for certification and other relevant information, the State Water Board must either: (1) issue an appropriately conditioned certification; or (2) deny certification. (Cal. Code Regs., tit. 23, § 3859.) The State Water Board may issue certification if the State Water Board determines that an activity will comply with applicable water quality standards and other appropriate requirements of state law. The State Water Board may deny a certification application if compliance with water quality standards and other appropriate requirements is not determined, but the application suffers from some procedural inadequacy. (Cal. Code Regs., tit. 23, § 3837, subd. (b)(2).) The State Water Board may also deny a certification application if the Board has requested supplemental information and the federal period for certification will expire before the Board has time to receive and properly review the supplemental information. (Cal. Code Regs., tit. 23, § 3836, subd. (b).)

Additionally, under federal regulation, if the certifying authority cannot certify that the discharge from a proposed project will comply with water quality requirements, it may deny or waive certification. (40 CFR § 121.7, subd. (b).) If the denial is due to

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

insufficient information, the denial must describe the specific water quality data or information, if any, that would be needed to assure that the discharge from the proposed project will comply with water quality requirements. (40 CFR § 121.7, subd. (e)(iii).) SSWD has not provided sufficient information to inform a determination that the Project design and its future operations will comply with water quality objectives in the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (SR/SJR Basin Plan), which are designated to protect beneficial uses. The State Water Board has requested supplemental information, including information related to dewatering (i.e., dewatering locations, how seepage water will be treated) and information related to potential erosion and turbidity discharges associated with the Project. The federal review period does not provide adequate time to receive and review the supplemental information. (Cal. Code Regs., tit. 23, § 3836, subd. (b).) Consistent with federal regulations, the certifying authority (State Water Board) cannot certify that the discharge from the proposed Project will comply with water quality requirements. (40 CFR § 121.7, subd. (b).)

The State Water Board has ongoing concerns that the Project design and associated proposed operations do not comply with the SR/SJR Basin Plan sediment, settleable material, suspended material, and turbidity water quality objectives as the left side wall of one of the existing spillway's plunge pools is unstable and, based upon aerial photos, is actively eroding into the Bear River. Additional information regarding Project impacts on sediment discharges and measures that will be implemented to ensure protection of water quality and beneficial uses is needed for the State Water Board to determine whether a certification should be issued. Modifications to the Project design may also be needed to comply with water quality standards.

The Project, as proposed, involves the construction of an auxiliary spillway at Camp Far West Dam that would be built through a combination of excavation, drilling, and blasting down to existing bedrock. The auxiliary spillway is not proposed to be lined or armored. In a recent communication received February 9, 2023, SSWD proposed addressing defects with dental concrete and riprap¹. What qualifies as a defect and how dental concrete and riprap will be used has not been described in sufficient detail to determine whether these proposed changes to the Project are sufficient to protect water quality associated with this aspect of the Project. The auxiliary spillway would connect into the existing spillway channel above the two existing plunge pools and would allow for increased flows in the area of the plunge pools and downstream. Increased flows in the plunge pools area may further contribute to the existing erosion of the plunge pools' walls. Additionally, the proposed design and operation of the auxiliary spillway may result in new undercutting bank erosion of the outside bend of the auxiliary spillway channel. Further, it is unclear how the Project design will ensure that flow discharging into and flowing in the new spillway will not result in head-cutting erosion of the point of land that will be created between the new auxiliary spillway and the existing spillway.

¹ SSWD has not proposed monitoring and adaptive management following Project construction.

Background

On July 3, 2007, the Federal Energy Regulatory Commission (FERC) issued a letter directing SSWD to increase the Camp Far West Dam spillway capacity from 106,500 cubic feet per second (cfs) at a reservoir elevation of 320 feet National Geodetic Vertical Datum of 1929 to 126,600 cfs at a reservoir elevation of 320 feet National Geodetic Vertical Datum of 1929, to accommodate the probable maximum flood². To bring Camp Far West Dam's spillway capacity into compliance with FERC's probable maximum flood requirements, SSWD proposed the Project that includes construction and operation of an auxiliary spillway at Camp Far West Dam. To comply with the California Environmental Quality Act (CEQA) SSWD adopted a final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Plan on December 6, 2018.

On May 24, 2019, the Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) issued a water quality certification for the Project associated with SSWD's United States Army Corp of Engineers (USACE) Clean Water Act section 404 application for the Project. The Central Valley Regional Water Board's certification included the following provision:

This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to Section 3855(b) of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

The Central Valley Regional Water Board's certification was associated with the USACE's 404 application and not SSWD's pending FERC license amendment application for the Project. As such, on February 17, 2022, SSWD filed a certification application for the Project with the State Water Board under section 401 of the Clean Water Act. On March 18, 2022, the State Water Board filed a notice with FERC that SSWD's certification request is pending before the State Water Board, noting the reasonable period of time for certification action as February 17, 2023.

Additional Information Requests – Federal Energy Regulatory Commission

During and prior to the reasonable period of time for the State Water Board to act on SSWD's certification request, FERC has issued Additional Information Requests (AIRs) to SSWD for the Project's design on August 26, 2019, January 13, 2021, and May 3, 2022. FERC's AIRs generally requested SSWD respond or act within 30 days of each respective AIR. Of note, FERC's AIRs included comments and requests for SSWD to provide: (1) a hydraulic model to assess erosion and head-cutting potential of the auxiliary spillway channel; (2) a rock erodibility analysis for the spillway rock foundation; (3) an analysis of the Project's hydraulic effects (i.e., depths, velocities,

² FERC defines the probable maximum flood as the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in the drainage basin under study.

channel bank overtopping) at the confluence of the auxiliary spillway channel with the existing spillway channel; (4) final hydraulic calculations and reports clarifying the erosive resistance of rock below the new auxiliary spillway; (5) contractor guidance on treatment of cofferdam seepage or excavated material movement; and (6) SSWD-approved contractor submittals for dewatering actions. It is unclear if SSWD's submittals have provided sufficient information to satisfy the FERC AIRs.

From the perspective of water quality protections, State Water Board staff have overlapping information needs to those identified in FERC's AIRs and have monitored the FERC docket for SSWD's responses. Though SSWD has submitted responses to FERC on May 8, 2020, March 22, 2021, and October 3, 2022, including a hydraulic design report, SSWD has not provided sufficient information to address the water quality concerns associated with the Project. Specifically, FERC has requested an erodibility analysis since August 26, 2019. On May 8, 2020, SSWD responded to FERC that the erodibility analysis would be provided to FERC by July 15, 2020. As of this letter, SSWD has not provided the erodibility analysis. According to SSWD's January 24, 2023 and February 9, 2023 supplemental information submittals to the State Water Board, development of the erodibility analysis is ongoing and will be included in the 100 Percent Design submittal to FERC and California Department of Water Resources Division of Safety of Dams (DSOD). The State Water Board is not aware of the anticipated timeline for this submittal to FERC and DSOD.

Additional Information Requests – State Water Board

During review of SSWD's certification application materials, State Water Board staff identified information needs related to construction design (i.e., dewatering locations and treatment of seepage water associated with dewatering) and became concerned with the potential erosion associated with the design and operation of the auxiliary spillway.

On November 14, 2022, State Water Board staff requested SSWD's consultants provide additional information regarding seepage water discharges and treatment of seepage water. On December 8, 2022, SSWD's consultants responded that they would provide a response shortly. State Water Board staff sent an additional email on January 11, 2023, and requested the information by January 13, 2023. As of this letter, SSWD has not provided the requested information.

Additionally, on January 12, 2023, State Water Board staff, SSWD, and SSWD's consultants met to discuss staff's concerns with erosion and turbidity discharges associated with Project operations. During the call, State Water Board staff informed SSWD that the information referenced in the November 14, 2022 email is still needed and of the potential for denial of certification for the Project due to ongoing water quality concerns associated with the auxiliary spillway design and operations. Specifically, State Water Board staff expressed erosion concerns with the new auxiliary spillway walls and that flows on both sides of the center embankment (i.e., existing and auxiliary spillway channel flows following auxiliary spillway construction) could result in erosion and potential widening of both spillway channels, which would result in turbidity and related water quality impacts. SSWD's consultants explained that they do not believe

there is a concern for erosion associated with the Project's design and plan to provide additional information to support this determination by January 27, 2023.

On January 20, 2023, and January 24, 2023, SSWD's consultants provided its July 2021 draft Geotechnical Design Recommendations Report (Geotechnical Report) and Supplemental Information for Clean Water Act Section 401 Water Quality Certification Application (January Supplemental Information) to State Water Board staff. The July 2021 draft Geotechnical Report includes information on the Project's spillway outlet channel soil profile. The soil profile generally consists of lean clay and decomposed metavolcanic bedrock in the upper 10 feet; intensely weathered bedrock in the subsequent 10 feet; and moderately weathered to fresh bedrock beginning 20 feet below the ground surface. The Project, as proposed by SSWD, involves excavating between 10 to 30 feet along nearly the entire length of the outlet channel that may result in the bottom of the auxiliary spillway channel being mostly in intensely and moderately weathered bedrock. Where excavations are approximately 10 feet or less (approximately 400 feet of the approximately 850 feet long outlet channel) the bottom of the outlet channel may be comprised of lean clay, decomposed metavolcanic bedrock, or intensely weathered bedrock. Additionally, the Geotechnical Report states, "items not included in this evaluation but will be addressed at a later design review stage include: erosion characteristics at the channel downstream of the auxiliary spillway." Though this information is helpful, it does not fully address staff's water quality concerns associated with the Project.

The auxiliary spillway is proposed to be constructed in a manner similar to the existing spillway (i.e., by excavating top layers of soil such that the bed of the spillway will be comprised of naturally occurring bedrock and other geologic material in the area). Consequently, in January 2023 State Water Board staff evaluated time-lapse aerial images of the existing spillway and its associated plunge pools for erosion and potential sediment discharges. As shown in *Attachment A: Time-Lapse Aerial Images of Erosion at Camp Far West Spillway Channel Plunge Pools*, there is active, ongoing erosion within at least one of the existing spillway channel plunge pools. Notably, comparing Attachment A Figure A1 (July 10, 2016) and Figure A2 (August 16, 2018), it appears the plunge pool wall was significantly eroded away by winter 2016-2017 spill flows. Furthermore, in Figure A3 (June 3, 2021), the plunge pool bank has collapsed, resulting in sediment discharge into the spillway channel. The sediment discharge appears to have washed into the Bear River between June 3, 2021 (Figure A3) and July 15, 2022 (Figure A4). The confluence of the proposed auxiliary spillway and the existing spillway is less than 100 feet upstream of the first existing plunge pool and approximately 200 feet upstream of a second existing plunge pool. State Water Board staff discussed these water quality concerns with SSWD on January 27, 2023. The Supplemental Information supplied by SSWD's consultants on January 20, 2023 and January 24, 2023 did not identify the ongoing erosion and instability of the plunge pool shown in Attachment A, and noted "the Project is designed to be constructed in the same bedrock material as the existing spillway, which has been in operation since 1964 and has not shown any noticeable erosion over time, in spite of nearly annual use".

On February 9, 2023, SSWD provided Additional Supplemental Information (February Supplemental Information) that includes proposed measures to address erosion at the plunge pools in the existing spillway and erosion of the auxiliary spillway. Proposed measures include: (1) application of shotcrete to the unstable slope of the existing spillway at the site of the observed slope failure adjacent to the second plunge pool to reduce the risk of additional erosion occurring at that site; and (2) address any “defects” noted during construction of the auxiliary spillway with dental concrete and riprap. State Water Board staff appreciates SSWD’s proposal and agrees that the proposed measures would likely help address erosion associated with Project operations; however, there is insufficient detail to understand what qualifies as a defect and how installation of shotcrete and riprap would be installed to protect water quality. Additionally, SSWD’s February Supplemental Information also provided information regarding modeled post-construction outflows. State Water Board staff note that although the existing and post-Project outflow magnitudes are similar, the auxiliary spillway outlet channel width, which narrows from 330 feet to 150 feet, may result in higher velocity flows at the downstream end of the outlet channel, potentially resulting in erosion of the outside bend of the auxiliary spillway outlet channel and plunge pools. Without additional information regarding erosion associated with the Project, the State Water Board is concerned Project construction and operations could result in further erosion and slope instability in the area of the plunge pools and channel boundaries of the auxiliary spillway, which discharge to the Bear River.

Water Quality Certification Action

Based on available information, including staff’s independent analysis of ongoing erosion at the plunge pools (Attachment A), SSWD is hereby notified that SSWD’s February 17, 2022 request for certification for the Project is denied without prejudice, effective the date of this letter. The State Water Board encourages SSWD to submit a new request for certification once SSWD has adequately addressed the Project’s potential to exceed SR/SJR Basin Plan water quality standards, which may be accomplished through additional information or a revised Project description clarifying dewatering activities and erosion and sediment discharge potential associated with the design, construction, and operation of the auxiliary spillway.

Staff appreciates SSWD’s ongoing participation in discussions towards resolving the State Water Board’s water quality concerns. The State Water Board recognizes the importance of flood protection and dam safety projects and State Water Board staff looks forward to working collaboratively with SSWD to address the water quality concerns articulated in this denial without prejudice. Staff will continue to review materials and work with SSWD on addressing erosion and sediment discharge concerns associated with the Project towards the goal of expeditiously issuing a certification for this Project once a new certification application is received with additional information noted in this letter.

Mr. Hayden Cornwell

February 15, 2023

If you have questions regarding this letter, please contact Derek Wadsworth, Project Manager, at: Derek.Wadsworth@waterboards.ca.gov. Written correspondence should be directed to: State Water Resources Control Board; Division of Water Rights - Water Quality Certification Program; Attn: Derek Wadsworth; P.O. Box 2000; Sacramento, CA 95812-2000.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eileen Sobeck".

Eileen Sobeck
Executive Director

Enclosure: Attachment A: Time-Lapse Aerial Images of Erosion at Camp Far West
Spillway Channel Plunge Pools

ec: Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Via efile

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ebc: Interested Parties List

ATTACHMENT A:
**TIME-LAPSE AERIAL IMAGES OF EROSION AT CAMP FAR WEST SPILLWAY
CHANNEL PLUNGE POOLS**



Figure A1. July 10, 2016 Google Earth aerial image of Camp Far West spillway plunge pool



Figure A2. August 16, 2018 Google Earth aerial image of Camp Far West spillway plunge pool



Figure A3. June 3, 2021 Google Earth aerial image of Camp Far West spillway plunge pool



Figure A4. July 15, 2022 Google Earth aerial image of Camp Far West spillway plunge pool

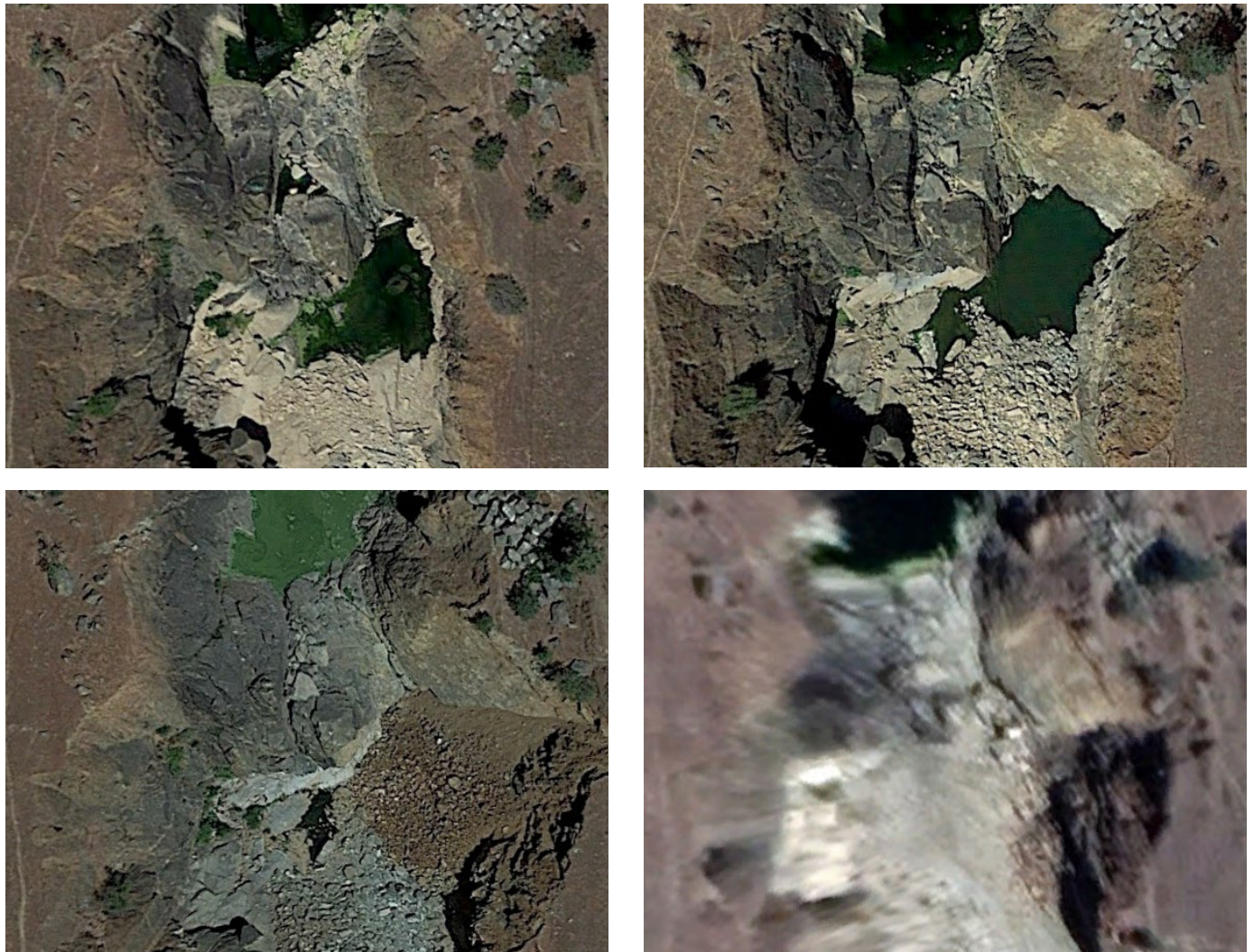


Figure A5. Side by side zoomed in photos of Figures A1-A4. Top left – 2016; Top right – 2018; Bottom left – 2021; and Bottom right – 2022.

Certificate of Service

I hereby certify that I have this day filed electronically with the Federal Energy Regulatory Commission and served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated this 15th day of February 2023.



Derek Wadsworth
Water Resource Control Engineer
Division of Water Rights
State Water Resources Control Board
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