



County of Siskiyou Staff Report

Lower Klamath Hydroelectric Decommissioning Project

November 2023

The purpose of this staff report is to inform the Board of Supervisors and the public of the Lower Klamath Hydroelectric Decommissioning Project's (Project) progress every month. The report also includes an update on the County Staff's involvement in the Project, as well as an outline of upcoming activities. While not all areas of interest or concern may be addressed in this report, any questions, comments, or concerns can be directed to the County's email address for the project: lkdinfo@co.siskiyou.ca.us.

Project Progress

As a reminder, the Federal Energy Regulatory Commission (FERC) has encouraged KRRC and their contractors to endeavor to comply with local ordinances and permits, although this was not a requirement through the FERC Order. To the extent that local laws or permitting requirements make compliance with FERC's Order impossible or unduly difficult, FERC concluded that such local requirements are preempted. County Staff have been working closely with KRRC and their contractors to urge permit application submittals and good neighbor policies, particularly for those permits that are related to public safety (such as transportation and encroachment permits). For those activities that may be exempt through the FERC Order, County Staff has asked for a written factual/legal justification for why County permits are preempted. In addition, the County is asking that KRRC and their contractors follow standard permit conditions when preemption is requested.

Below is an outline of the major Project activities that occurred in November 2023. Photos of recent Project Activities are included in Appendix A.

- Road and project signs installed by KRRC contractors around Copco Road, and the reservoirs.
- Continuation of pre-drawdown activities and modifications.
- Cultural and biological site surveys continuing within the Project Area during construction activities.
- Flow management coordination for pre-drawdown period is ongoing until drawdown begins in January 2024.
- Maintain temporary best management practices throughout the Project Area.
- Continued ground water well monitoring.
- Continued work on the Emergency Action Plan (EAP) and FERC Dam safety preparedness actions. KRRC updated the draft EAP based on comments from Emergency Management organizations within the County.
- Finished private dock removal on Copco Reservoir.
- Advancement City of Yreka water pipeline.
- Completed the following construction activities at **Copco 1**:
 - Finished low level adit construction.
 - Drilling diversion tunnel concrete plug and blasting holes.
- Completed the following construction activities at **Copco 2**:
 - Copco 2 has been completely removed and the site graded.
 - Restored volitional passage channel.
 - Construction access being restored.



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- Completed the following construction activities at **Copco 2 Village Area**:
 - Maintained temporary BMPs.
 - Fall Creek culvert replacement installation complete, removed shoefly access road.
 - Final tie in of the Yreka Waterline.
- Completed the following construction activities at **Iron Gate Dam**:
 - Water Quality testing is on-going during in-water work and tunnel water pumping.
 - Final set up of the office trailers at the Iron Gate complex. KRRC contractors have set up another office complex near Iron Gate dam to help monitor and manage the demolition work.

In November, KRRC updated their flow and reservoir management calendar, which outlines the anticipated Copco Reservoir Levels. This is a continuation of the previous cycling schedule that occurred during the months of September and October. Flows are being held behind Copco No. 1 Dam while crews are in the canyon, and then released when they are working elsewhere. This creates a cycle of raising and lowering water levels in Copco and Iron Gate Reservoirs, which will continue through November. The water level will remain within the standard operating levels during these cycles. Water level changes will be gradual so community members should not expect drastic changes in 24-hour periods.

In addition, continued planning for the upcoming drawdown occurred in November. Planning activities included:

- Final powerhouse and flowline termination plans with PacifiCorp
- Workplan preparation for dam removal construction
- Emergency Action Planning (EAP) for Drawdown Period
- Implement Public Safety Planning for Drawdown Period
- Low-level outlet opening and reservoir drawdown planning
- Drawdown period compliance requirements, tracking, and reporting
- Preparing updated Site Access Process Protocols and Identified Viewing Areas

Recent FERC Actions

FERC filings related to the Project have continued into October. Filings that occurred in October are summarized in Appendix C of this report. A more detailed explanation of each FERC filing can be found in Appendix D.

County Actions

As a reminder, The Klamath Project Manager (PM) position was contracted at the end of February 2023 to help support the County with the Project. The PM has been working with County Staff to reduce their workload on the project by establishing herself as the County's main point-of-contract (POC) for KRRC, their contractors, and stakeholders (such as the California Department of Fish and Wildlife) for the Project. The County continues to have regularly scheduled update meetings with KRRC and their contractors. Specific topic meetings (i.e., roads and bridges, etc.) will



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continue throughout the life of the Project as the need arises. Table 2 outlines the County Project activities performed in November 2023.

Table 1. County Project Activities – November 2023

Dept. / Staff	Activity	Involved Parties	Status
PM	Coordination with CDFW on Project	PM	Ongoing
PM, PIO	Weekly meetings with KRRC PIO	PM, PIO	Ongoing
PM	Tracking the submittal, review, and approval (or denial) of each local permit.	PM	Ongoing
PM	Project-wide permit updates to the County. This is in lieu of Camas and McMillen providing on a bi-weekly call.	PM	Ongoing
PM	Weekly project/permit update calls with McMillen & KRRC	PM	Ongoing
PM	Attending agency update meetings hosted by McMillen	PM	Ongoing
PM	Create BOS memo on cultural resources project procedures.	PM	November
County Staff, PM, KRRC, Contractors	Continued EAP coordination	PM & County Staff	November
PM, PIO, Deputy Administrator	Continued public outreach to residents.	PM, PIO	Ongoing
Community Development & PM	Coordination with KRRC & contractors on project and road sign implementation. Signs installed in November.	Project Wide	November
PM & Community Development	Working with RES on proper permitting for project related activities and staff housing.	PM & County Staff	Ongoing
PM, County Administration & PIO	Working together to assist the public and Board of Supervisors in receiving information and communication from KRRC & Contractors (i.e., information on new boat ramp below Iron Gate).	PM & County Staff	Ongoing
PM, PIO	Creation of Project public information materials	PM & County Staff	Ongoing
PM, PIO	Planning of upcoming public outreach meetings in Copco and the downriver communities.	PM & County Staff	November
PM & Public Works	Coordination with KRRC contractors on road damage and maintenance. Ongoing discussions on potentially updating the Roads and Bridges MOU.	PM & County Staff	Ongoing
PM & Public Works	Public work response to Fall and Dry Creek bridge improvements and monitoring plan.	PM & County Staff	November
Public Works	Continuing to review and approve transportation permits.	Public Works	Ongoing

Upcoming Activities - December 2023

Table 2 summarizes the upcoming Project-level and County-specific activities that are proposed to occur in December 2023.



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Table 2. Upcoming Project & County Activities – December 2023

Responsible Party	Activity	Location	Date
KRRC Contractors	Cultural and biological site surveys for construction activities	Project Wide	Ongoing
KRRC Contractors	Water Quality Monitoring	Project Wide	Ongoing
KRRC Contractors	Finish drilling diversion tunnel plug	Copco 1	December
KRRC Contractors	Continue Dam Safety Monitoring	Copco 1	December
KRRC Contractors	Maintain temporary BMPs	Copco 2 Village	Ongoing
KRRC Contractors	Maintain temporary RV park	Copco 2 Village	Ongoing
KRRC Contractors	Final tie in of City of Yreka Pipeline	Copco 2 Village	December
KRRC Contractors	Water quality monitoring during in water work	Copco 2 Village	Ongoing
KRRC Contractors	Installation of super-cavitating baffles in outlet tunnel	Iron Gate	December
KRRC Contractors	Removal of access road and pad.	Iron Gate	January 2024
KRRC Contractors	Monthly & post storm monitoring of Fall and Dry Creek bridges	Fall/Dry Creek Bridges	Ongoing
PM	Weekly update calls with KRRC Contractors	Project Wide	Ongoing
PM	Continued project meetings with CDFW	Project Wide	Ongoing
PM & Community Development	Work with RES on permitting and compliance	Project Wide	Ongoing
PM, Public Information Officer (PIO) & Supervisors	Bi-weekly update call with Supervisor Criss & Supervisor Haupt	Project Wide	Ongoing
PM, PIO, and KRRC PIO	Bi-weekly call to discuss upcoming public announcements	Project Wide	Ongoing
Public Works, PM, KRRC	Continued discussion on road maintenance	Copco Road	Ongoing
Public Works, PM, PIO, County Staff, Sheriff	Public safety planning	Project Wide	Ongoing
Public Works & PM	Global Transportation Permit development	Project Wide	December – January

Fish Hatchery Project Progress

As a reminder, the construction activities that are occurring as part of the relocation of the Iron Gate Fish Hatchery to the Fall Creek location, while associated with the Project, are not being completed by KRRC or their contractors. Per the FERC Order, the removal of the facilities at Iron Gate, and new build at Fall Creek is the responsibility of PacifiCorp. PacifiCorp will retain ownership of the lands occupied by the Fall Creek Hatchery, with the California Department of Fish and Wildlife (CDFW) leasing the lands and facilities need to operate the hatchery (see FERC Order, page 61, Section HH, Subsection II).

Below is an outline of the major activities that have occurred as part of the fish hatchery relocation project over the past month:

- Continued site excavation continued for pipe trenches and place piping and electrical.



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- Finished connecting the upstream piping at the meter vault, and formed and poured the concrete stairs.
- Finished installation of pipe risers, tanks, and electrical at the Coho Building.
- Finished raceway coating of the Coho Raceway.
- Ran water through the Chinook Incubation Building for two weeks. This building has been turned over to CDFW.
 - Eggs began being transferred from Iron Gate Fish Hatchery on November 14th.
- Installed bird netting frames over the Chinook Raceways.
- Continued installation of PEMB of the Spawning building.
- Installed flood walls at the Spawning Building.
- Continued concrete coating of the adult holding ponds.
- Sandblasted, patched and coated the fish ladder.
- Installed travelling screen/trash rack and screen panel at the intake.
- Completed concrete formwork at Dam B fish barrier. Poured the concrete on November 13th.

Upcoming Fish Hatchery Activities

- Continue to excavate electrical conduit.
- Install the roof hatch, walkway and ladders at the Meter Vault.
- Continue electrical install at the Coho Building. Install FRP grating.
- Continue egg transfer from Iron Gate Fish Hatchery. Backfill around the Chinook Incubation building and place exterior concrete patios/stoops.
- Install bird netting, FRP grating and fencing at the Chinook Raceways.
 - Water will begin flowing through the raceways on November 20th in preparation for Coho yearling transfer scheduled on December 5th.
- Begin electrical install on the Spawning building.
- Finishing coatings on the adult holding ponds and installation of an electroshock tank from the Iron Gate Fish Hatchery.
- Install fencing and walkways at Dam A and intake.
- Install walkways and remove cofferdam on November 24th at Dam B.

Additional Information:

- **Initiation of reservoir drawdown is on track to begin on January 4, 2024**
- Klamath Dam Removal Special Meetings will be on hold until January 2024.
 - Information can still be found on the County's Klamath Dam Decommissioning Website (<https://www.co.siskiyou.ca.us/naturalresources/page/klamath-dam-decommissioning-project>).
- We will continue to create staff reports for the Board and the Public which can be accessed on the website.



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- Additional important project information (such as upcoming activities, anticipated heavy traffic, etc.) will be communicated through social media, posted in public locations (such as community centers, grocery stores, etc.).
- Any questions or concerns related to the project, please reach out to us via email: **lkdinfo@co.siskiyou.ca.us**.



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Appendix A. Project Photos



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Aerial view showing the overall Copco No. 1 and No. 2 complex.



General view of Copco 1 Dam and Powerhouse with progress on fill over the steel extension pipe.



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General view of Copco 1 Dam and Powerhouse with progress on fill over steel pipe extension.



General view of Copco 1 Dam and Powerhouse with progress on riprap placement over steel pipe extension.



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Stell extension pipe at Copco 1.



General view of Copco 1 dam and powerhouse with progress removal of access pad to steel extension pipe and low-level adit.



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General view of Copco 1 dam and powerhouse with access pad to steel extension pipe and low-level adit removed.



General view of Copco 1 dam and powerhouse Jim Bob bridge access to the diversion tunnel outlet.



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General view of Copco 1 dam and powerhouse with bridge access to diversion tunnel outlet and completed grouted riprap pad over steel extension pipe.



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Klamath River channel downstream from Copco No. 1 powerhouse.



Copco 2 wood stave flowline soil remediation progress.



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Copco 2 steel penstock thrust blocks have been removed. Lower thrust block backfilled. Tailrace filled and rip rap being placed.



Copco 2 tailrace backfill progress – rip rap partially completed.



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Copco 2 tailrace backfill progress – rip rap completed.



Aerial view of City of Yreka Waterline progress. Excavation and pipe laying are complete.



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Pre-Drawdown schematic of Iron Gate Complex



Fall Creek Hatchery progress. Chinook Incubation Building.



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Dam A Velocity Barrier & Hatchery Intake



Pipe Installation: Downstream of Meter Vault



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Coho Building – Raceways



Chinook Raceways & Bird Netting Install



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Spawning Building & Adult Holding



Overview of Fall Creek Hatchery progress.



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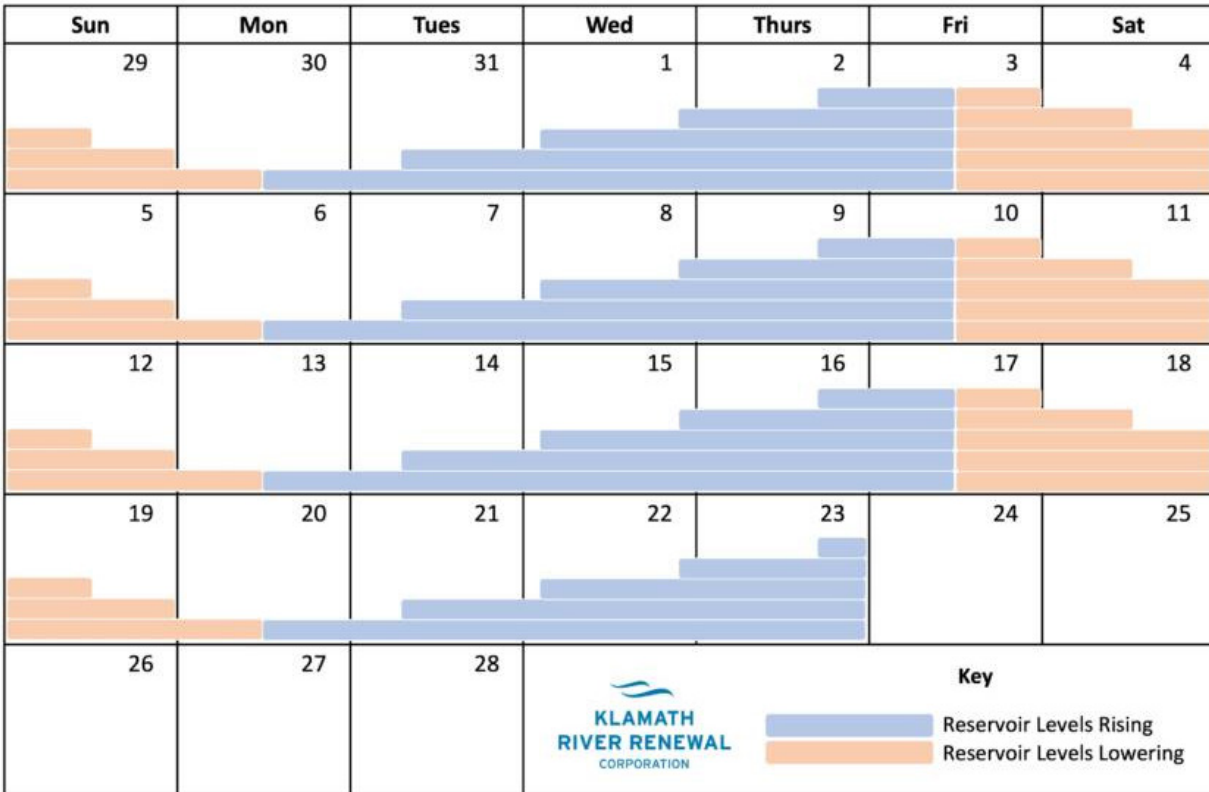
**Appendix B. Flow and Reservoir
Management Calendar for Copco in
November**



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Anticipated Copco Reservoir Level Cycling Calendar
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Specifics Dates Subject to Change



Subject to change; please visit the KRRC website to find the most current schedule: klamathrenewal.org/local-public-notice/



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Appendix C. Recent FERC Filings



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Table 3. Recent Project Actions Submitted Through FERC's eLibrary

Doc #	Date	Filing Type	File	Description	Link
1	11/1/23	Dam Safety Compliance Report	KRRC	Annual Alignment Survey Reports – CEII (confidential).	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231101-5083
2	11/1/23	Environmental and Recreational Compliance Report	KRRC	August 2023 Final Monthly Report for the California Water Quality Monitoring Plan	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231101-5130
3	11/1/23	FERC Correspondence With Government Agencies; Delegated Order	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the Board of Consultants Construction Plan and Schedule for the Lower Klamath Project under P-14803	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231101-3070
4	11/2/23	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Termination Plan for the J.C. Boyle, Copco No. 1, and Iron Gate Developments of the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231102-5085
5	11/2/23	Dam Safety Compliance Report	KRRC	Copco No. 1 Diversion Tunnel Plug Shits Blasting Plans for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231102-5137
6	11/2/23	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits J.C. Boyle Blasting Plans for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231102-5140
7	11/3/23	Project Operations Compliance Report	PacifiCorp	PacifiCorp submits Revised Exhibit K Spatial Data for the Klamath Hydroelectric Project under P-2082.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231103-5169
8	11/6/23	Comment on Filing	Public Resident	Docket Change - Non-Decisional: Comments of William E. Simpson II dated 09/29/2023 regarding the Klamath Project under P-14803.	file:///C:/Users/chels/Downloads/20231002-4000_William%20E.%20Simpson%20II%209-29-23%20(1).pdf
9	11/9/23	Compliance Directives, General Correspondence, FERC Correspondence w/	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the September 2023 Monthly Construction Report Response for the Iron Gate Development of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231109-3041



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Doc #	Date	Filing Type	Filer	Description	Link
		Government Agencies			
10	11/12/23	Progress Report	KRRC	Klamath River Renewal Corporation submits October 2023 Monthly Report for the California Terrestrial and Wildlife Management Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231113-5033
11	11/13/23	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Documentation of Consultation with Siskiyou County re On-site Waste Disposal for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231113-5219
12	11/15/23	Environmental and Recreational Compliance Report	KRRC	Klamath River Renewal Corporation submits Initial Monthly Report for October 2023, for the California Water Quality Monitoring Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231115-5056
13	11/15/23	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Monthly Report for October 2023, for the California Slope Stability Monitoring Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231115-5058
14	11/15/23	Progress Report	KRRC	Klamath River Renewal Corporation submits Monthly Construction Progress Report for October 2023, for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231115-5065
15	11/16/23	Compliance Directives, FERC Correspondence w/ Government Agencies, Delegated Order	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the Blast #17 Adit Plug Shot Pre-Blast Plan etc. for the Copco No. 1 Development of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231116-3137
16	11/16/23	FERC Correspondence w/ Government Agencies	FERC	Letter to Klamath River Renewal Corporation et. al. providing a comment on the supplemental response to Low Level Outlet Orifice comments and the Board of Consultants' response for the	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231116-3139



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Doc #	Date	Filing Type	Filer	Description	Link
		Delegated Order General Correspondence		Iron Gate Development of the Lower Klamath Project under P-14803.	
17	11/16/23	Compliance Directives, General Correspondence, FERC Correspondence With Government Agencies, Delegated Order	FERC	Letter to Klamath River Renewal Corporation providing comments on 10/27/2023 request for an exemption from performing several 2023 Emergency Action Plan required activities for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231116-3140
18	11/16/23	FERC Correspondence w/ Government Agencies Delegated Order General Correspondence	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the timelines for performing and submitting the Semi-Quantitative Risk Assessment for a premature breach of the Iron Gate Development of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231116-3144
19	11/17/23	Accident Report	KRRC	Klamath River Renewal Corporation submits Response to FERC's September 29, 2023, Letter re Human Remains Identified at the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231117-5219
20	11/20/23	FERC Correspondence w/ Government Agencies Delegated Order General Correspondence	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the 2023 Annual Alignment Survey Plan for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231120-3077
21	11/20/23	FERC Correspondence w/ Government Agencies	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the 2020 Tainter Gate Inspection Report Updated Plan and Schedule response for the J.C. Boyle Development of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231120-3078



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Doc #	Date	Filing Type	Filer	Description	Link
		Delegated Order General Correspondence			
22	11/22/23	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Lakeview Road Bridge Construction Documents for the Lower Klamath Hydroelectric Project under P-14803	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231122-5009
23	11/22/23	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Construction Documents re Drawings and Design for the Lakeview Road Bridge at the Lower Klamath Hydroelectric Project under P-14803	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231122-5143
24	11/27/23	FERC Correspondence w/ Government Agencies General Correspondence	FERC	Letter to Klamath River Renewal Corporation et al. acknowledging receipt of the 10/02/2023 letter re the discovery of human remains etc. for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231127-3085
25	11/29/23	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Iron Gate Tunnel Baffle Block Anchor Drilling Plan to address FERC's November 9, 2023, Letter for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231129-5021
26	11/29/23	Compliance Directives, General Correspondence, FERC Correspondence w/ Government Agencies	FERC	Letter to Klamath River Renewal Corporation et al. providing comments on the drawdown period Emergency Action Plan and training schedule etc. for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231129-3049
27	11/30/23	Delegated Order General Correspondence	FERC	Letter authorizing Klamath River Renewal Corporation et al. to begin construction of the Lakeview Bridge at the Iron Gate Development of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231130-3119
28	11/30/23	Compliance Directives	FERC	Letter to Klamath River Renewal Corporation et. al. providing comments on the Powerhouse Facilities Termination Execution	https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231130-3118



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Doc #	Date	Filing Type	Filer	Description	Link
		General Correspondence		Report etc. for the Copco No. 2 Development et al. of the Lower Klamath Project under P-14803.	



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Appendix D. FERC Filing Report



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Table 4. Summary of each FERC Filing in November 2023

Doc # (Table 3)	Document Title	Document Summary
1	Lower Klamath Hydroelectric Project (FERC No. P-14803) Iron Gate, Copco No. 1, J.C. Boyle Developments Annual Alignment Survey Reports	KRRC filed a confidential information notice with FERC. The files within the filing (2023 Annual Dam Safety Survey Monitoring Report – Iron Gate; 2023 Annual Dam Safety Survey Monitoring Report – J.C. Boyle; Iron Gate Survey Monument Horizontal and Vertical Movement plots; J.C. Boyle Survey Monument Horizontal and Vertical Movement plots; Copco No. 1 Post Blast Survey Data) contain public and security-classified documents as defined in 18CFR§388.112.
2	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) August 2023 Final Monthly Report for the California Water Quality Monitoring Plan	The August 2023 Final Monthly Report describes the water quality monitoring that the Renewal Corporation implemented in August 2023 pursuant to the methodologies and procedures described in detail in the California Water Quality Monitoring Plan. In August 2023, the Renewal Corporation conducted continuous water quality monitoring at nine locations, collecting data at all stations at 15-minute intervals. The Renewal Corporation also collected grab water samples at nine locations, and laboratory results of those analyses have been included in this final version of the Report. The Report details the locations of monitoring, parameters sampled, period of record for each station, graphical data summaries, and tabular data.
3	Board of Consultants Plan and Schedule during Construction, Lower Klamath Project	The letter provides the independent Board of Consultants (BOC's) comments on the proposed Schedule and Construction Plan for the Project. The comments are as follows: <ol style="list-style-type: none"> 1. The proposed schedule and key construction milestones are acceptable. Please coordinate with Ms. Elisabeth Jacquot-Matt of this office while scheduling any future BOC meetings. 2. We note that your table showing the expected dates by which certain project milestones will be assessed lists dates after some activities have begun (e.g. the schedule provided in your January 13, 2023 construction package lists the blasting of the Copco No. 1 Adit lasting from 1 to 11 January, 2024, but the expected date to update the BOC on the progress of this activity is "before February 1, 2024"). While we understand that you will continue to provide the BOC with the quarterly risk register and monthly construction reports, please ensure that you notify the BOC far enough in advance of the start of critical construction milestones so they can provide comments, if necessary, before the work begins.
4	Lower Klamath Project (FERC No. P-14803-001); Final Facility Termination Plans for J.C. Boyle, Copco No. 1, and Iron Gate Developments	This is a confidential submittal, citing 18CFR§388.112. The submittal is a cover letter explaining what a termination plan is (provide a logical and concise method for terminating operations and safely transitioning from power generation to dam removal construction), and notes the confidential attachments (J.C. Boyle Termination Plan – CUI//CEII, Copco No. 1 Termination Plan – CUI//CEII, Iron Gate Termination Plan – CUI//CEII). Within 30 days of



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		completing the decommissioning activities described in each facility termination plan, KRRC will submit Final Facility Termination Plan Reports for J.C. Boyle, Copco No. 1, and Iron Gate developments complete with photographs and signatures demonstrating the projects were decommissioned in accordance with the Plans.
5	Lower Klamath Project (FERC No. P-14803-001); Copco No. 1 Low-Level Adit Final Plug Shot and Copco No. 1 Diversion Tunnel Plug Shot Blasting Plans	This is a confidential submittal and contains only a cover letter. The submittal is in response to a request from FERC that all blasting activities including pre-drilling at Copco 1 cease until updated blasting plans are submitted to FERC for review and the FERC Portland Regional office issues a final authorization letter. FERC indicated that the blasting strategy for the final plug shots in these two locations has changed since the July 2023 blasting plan submittal which required an updated submittal to FERC. All attachments (Copco No. 1 Plug Shot Design – Cover Letter, Copco No. 1 Dam Low-Level Adit Final Plug Shot Pre-Blast Plan, Copco No. 1 Dam Diversion Tunnel Plug Shot Pre-Blast Plan, and Copco No. 1 Master Blast Plan, Revised October 30, 2023) are marked CEII.
6	Lower Klamath Project (FERC No. P-14803-001); JC Boyle Dam Diversion Culvert Stoplog Removal Blasting Plan	This is a confidential submittal and contains only a cover letter. The cover letter explains that at JC Boyle, KRRC plans to re-establish flow through the two original diversion culverts located under the spillway structure. These culverts were used to bypass the river flow during the original dam construction. When the dam construction was complete, concrete stoplogs were installed to seal the conduits and fill the reservoir. KRRC plans to re-open the existing diversion culverts by controlled blasting and removal of the concrete stoplogs. The first stoplog will be removed on January 8, 2024 to effect reservoir drawdown. The second stoplog will be removed shortly upon completion of initial reservoir drawdown. All attachments are marked CEII (JC Boyle Dam Diversion Culvert Stoplog Removal Pre-Blast Plan and MC Donegan Master Blast Plan for JC Boyle Operation).
7	Klamath Hydroelectric Project (FERC No. P-2082) Submittal of Revised Exhibit K Spatial Data	On March 23, 2023, the Federal Energy Regulatory Commission (FERC) issued an order approving revised Exhibit K and Exhibit L for the Klamath Hydroelectric Project (FERC No. P-2082). The March 23, 2023, Order required PacifiCorp to make specific changes to the exhibits and to refile the approved exhibit drawings with FERC within 45 days (May 7, 2023). PacifiCorp submitted the revised exhibit drawings on April 28, 2023. In a phone call on September 28, 2023, FERC staff requested that PacifiCorp separate the project boundaries at the East Side and West Side developments into separate polygons within the spatial data. This submittal includes the changes made by PacifiCorp to the spatial data at the East and West Side developments, along with the unchanged spatial data for federal lands and reference points. This data is public and is in the form of shapefiles to be used with ArcGIS.
8	Native American Burial Site Allegedly Desecrated By Klamath River Renewal Corporation Contractors	Email from William E Simpson II alleging that the Shasta Tribe was not contacted after a indigenous grave was discovered during project activities.



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9	September 2023 Monthly Construction Report Response, Iron Gate Development, Lower Klamath Project	<p>FERC has the following comments on Mort McMillen's letter date October 16, 2023 (letter transmitting the September 2023 Dam Removal Project Monthly Construction Report):</p> <ol style="list-style-type: none">1. Section 3.0 of the Report states that while drilling for the Iron Gate Tunnel upstream baffle block anchors, Drill Tech encountered a water-filled void underlain by "several feet of tunnel muck and loose material" under the tunnel liner. The Report does not elaborate on the overall size of the void, thickness of the loose material, or if a lack of foundation support could cause the tunnel liner to collapse under the post-tension-anchored baffle block loading. Please provide additional details regarding the void dimensions and any proposed measures (with supporting design/construction documents) that would be taken to support the tunnel liner and baffle blocks before drilling can re-commence.2. Section 3.0 of the Report also states that, while drilling the downstream baffle block anchors, Drill Tech encountered a concrete cutoff collar. The Report states that different drilling and installation methods will be required to complete the anchor installation. Please provide a detailed description of the revised drilling and installation methods to achieve the required embedment into competent rock.3. The information described above should also be submitted to the Board of Consultants for review, and their comments should be provided to this office.4. We understand that Drill Tech has demobilized from the Iron Gate Tunnel until the weekly outages at Copco No. 1 cease in Mid-November. No further Iron Gate Tunnel drilling is authorized until this office has reviewed the submittals described above and issues a letter authorizing the revised baffle block anchor drilling plan. <p>FERC asks that within 30 days of this letter that KRRC respond to or submit a plan and schedule to address these comments.</p>
10	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) October 2023 Monthly Report for the California Terrestrial and Wildlife Management Plan	<p>The monthly report describes KRRC's implementation of terrestrial resource protective measures for the time period of October 1-31, 2023, including monitoring for western pond turtle, nesting birds, willow flycatcher, bats, special status species, foothill yellow-legged frogs, monarch butterfly, locations of wetland buffers, and a summary of crew trainings completed.</p>
11	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) Documentation of Consultation with Siskiyou County Regarding On-site Waste Disposal	<p>Submittal is a letter from KRRC to FERC noting a meeting with Siskiyou County staff on May 9, 2023 to discuss the Waste Disposal and Hazardous Materials Management Plan. KRRC states that the County did not express concerns about the implantation of the plan. KRRC states that they will not seek a Conditional Use Permit or other discretionary approval under local ordinance with respect to implementation of the Waste Disposal Plan. The justification is that the hearing process would require months and likely longer, conflicting with the FERC-authorized construction schedule in the License Surrender Order. Pursuant to the procedures required by the California Environmental Quality Act, the County would analyze impacts of granting a</p>



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		Conditional Use Permit, along with alternatives including denial. That analysis would duplicate the review that FERC completed in approving the Waste Disposal Plan. The Renewal Corporation has concluded that seeking a local permit for waste disposal activities would make compliance with the License Surrender Order “impossible or unduly difficult.” See PacifiCorp, 115 FERC ¶ 61,194 (2006).
12	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) October 2023 Initial Monthly Report for the California Water Quality Monitoring Plan	The monthly report describes the water quality monitoring that KRRC implemented in October 2023 pursuant to the methodologies and procedures described in detail in the California Water Quality Monitoring Plan. In October 2023, KRRC conducted continuous water quality monitoring at nine locations, collecting data at all stations at 15-minute intervals. Grab water samples were also collected at nine locations and bed sediment samples at eleven locations, and laboratory analysis of these samples is ongoing, and results will be included in a final version of the Report in two to three months, once they become available. This monthly report details the locations of monitoring, parameters sampled, period of record for each station, graphical data summaries, and tabular data.
13	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) October 2023 Monthly Report for the California Slope Stability Monitoring Plan	This monthly report outlines KRRC’s implementation of slope stability monitoring measures for the time period of October 16 – 31, 2023. No slope stability issues were observed during this time. Daily and weekly inspections were performed by PacifiCorp Operations personnel as part of their normal duties and per license requirements, and annual inspections are performed by PacifiCorp Dam Safety Engineering staff with the assistance of PacifiCorp Operations personnel. The KRRC Chief Dam Safety Engineer (CDSE), Rick Scott, participated in the dam safety inspections. KRRC did not observe any slope stability issues on the existing dam embankment at Iron Gate Dam during the monitoring. The embankment section of Copco No. 2 Dam was demolished prior to this monitoring period. The KRRC visually monitored the reservoir rim at Copco No. 1 reservoir during these reservoir cycle periods. Multiple cycles were completed with no signs of slope stability identified on the reservoir rim. The Iron Gate reservoir rim was also monitored during these cycle periods with no identified areas of slope stability. Access roads within the FERC boundary were also monitored during this time and no identified slope stability issues associated with the roads at Copco Complex or Iron Gate dam during the monitoring period.
14	Lower Klamath Hydroelectric Project (FERC No. P-14803) October 2023 Monthly Construction Report	This submittal is a single letter that summarizes the construction work completed in October 2023. The work completed during October 2023 included starting early works at JC Boyle, installation of the steel extension pipe at the new Copco No. 1 low-level adit, completing Copco No. 2 dam intake structure demolition and backfill, backfilling the Copco No. 2 powerhouse tailrace, and continued construction of the City of Yreka waterline.



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15 Adit and Low-Level Outlet Tunnel Final Plug Blast Plans,
Copco No. 1 Development, Lower Klamath Project

This letter acknowledges Mr. Bransom's November 2, 2023 letter transmitting documents related to Removal Project blasting activities at the Copco No. 1 Development. FERC reviewed the information and had the following comments:

1. Kiewit's letter adequately addressed concerns relayed to you in my October 26, 2023 email except the following: Attachment A indicates that the diversion tunnel is not needed to fully draw down the reservoir and states that in the event of a tunnel collapse, "It is not required to utilize the diversion tunnel to complete our work and means of diverting the river from left to right would commence." However, the 100% Design Report Appendix C1, submitted by your January 13, 2023 letter, stated that the diversion tunnel will be required to pass inflows once the reservoir reaches El. 2515 ft. It is unclear how the reservoir would be fully drawn down without the diversion tunnel. Provide a contingency plan for how this will be accomplished with consideration given to how this plan would impact the overall construction schedule given the short timeline for removal of the entire project.

2. Mr. Bransom's letter stated that the plans were prepared "with review and approval by the blasting consultants," but approval statements from Dr. Cathy Aimone-Martin and Mr. Michael Koehler were not included with the revised Copco No. 1 Master Blast Plan. The required statements were provided with the specific pre-blast plans for the remaining two blasting events at the Copco No. 1 Development so the omission of these statements in this case is acceptable.

3. The Blast #17 Adit Plug Shot Pre-Blast Plan as submitted is acceptable and you may proceed with diversion tunnel plug drilling and other pre-blast preparations. However, you may not proceed with blasting of the Adit Plug until we issue a letter authorizing the 2024 drawdown year construction activities. (Your September 29, 2023 submittal that requested this authorization is currently under review.) When blasting does proceed, you must submit a post-blast report with a summary of the blast results, including compliance with peak particle velocity (PPV) and sound pressure levels (SPL) project limits, and any field changes that were made to the pre-blast plan, noting any unexpected conditions, via email to the following individuals: Elisabeth Jacquot-Matt, Kathleen Bensko, and Katie Clarkson. Include the Post-Blast Reports in the Final Construction Report at the end of the project.

1. The Diversion Tunnel Plug Pre-Blast Plan as submitted is acceptable. You may proceed with diversion tunnel plug drilling and other pre-blast preparations. As indicated in Comment 1, a contingency plan must be submitted for diverting river flows should the diversion tunnel become unusable. This plan is required before the plug blast can be authorized.

FERC requested that within 60 days KRRC respond to or provide a plan and schedule addressing these comments.



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16	Low Level Outlet Orifice, Iron Gate Development, Lower Klamath Project	The FERC letter acknowledges KRRC's letters on June 30, 2023 and July 27, 2023 transmitting the supplemental response to Low-Level Outlet Orifice comments and the Board of Consultants' (BOC's) response, respectively, for the Iron Gate Development of the Lower Klamath Project, FERC No. 14803. FERC concurs with the BOC that the justifications provided in the June 30th letter attachment for leaving the Low-Level Outlet Orifice in place are reasonable. However, FERC notes that removing it remains a valid risk reduction measure (removing the orifice would increase discharge capacity by about 7% from 3,450 cfs to 3,700 cfs). Other risk reduction measures will be considered instead and, as noted in the BOC's response, the Low-Level Outlet Orifice could still be removed if necessary. FERC notes that KRRC's proposal to leave the Low-Level Outlet Orifice in place is acceptable at this time, but its removal may be reconsidered as an additional risk reduction measure pending the BOC's and FERC's concurrence with information still to be developed relating to the removal of Iron Gate Dam (e.g. additional hydrologic analyses for the 2024 water year; work plan information).
17	2023 EAP Requirements, Lower Klamath Project	This FERC letter acknowledges KRRC's October 27, 2023 letter transmitting a request for an exemption from performing several 2023 Emergency Action Plan (EAP) required activities for the Lower Klamath Project, FERC No. 14803. FERC has the following comments: <ol style="list-style-type: none">1. According to the final Lower Klamath Removal Project schedule submitted by your January 13, 2023 letter, the J.C. Boyle Klamath River Campground recreation site has been demolished. Therefore, your request for an exemption from performing the Fall Audible Siren Test at this location is acceptable pending your confirmation that the recreation site has been demolished.2. The schedule for transitioning to the Klamath River Renewal Corporation's (KRRC) EAP has no bearing on the potential downstream impacts in the event of a failure of any of the of the Lower Klamath Project high hazard developments, nor does it absolve those currently responsible for implementing the EAPs for these developments from their duties. Therefore, your request for exemptions from performing the activities listed in your submittal (with the exception of the siren test) is denied. You must complete the EAP seminar; notification chart call-down drill; EAP annual review; EAP annual planholder update; distribution of EAP laminated notification flowcharts (if contact information has changed); and submit an EAP Status Report. Please perform these required activities and submit the EAP Status Report by December 31, 2023. FERC requested that within 15 days a plan and schedule be submitted addressing their comments.
18	Semi-Quantitative Risk Assessment, Iron Gate Development, Lower Klamath Project	This FERC letter acknowledges KRRC's July 5, 2023 and August 24, 2023 letters transmitting timelines for performing and submitting the Semi-Quantitative Risk Assessment (SQRA) for a



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		<p>premature breach of the Iron Gate Development of the Lower Klamath Project, FERC No. 14803. FERC has the following comments:</p> <ol style="list-style-type: none"> 1. Based on a September 12, 2023 meeting between the Klamath River Renewal Corporation (KRRC), KRRC's consultants, the Lower Klamath Removal Board of Consultants (BOC), and the FERC Portland and Washington offices, KRRC would perform additional analyses to enhance risk mitigation and develop additional risk reduction measures in lieu of performing a separate SQRA for the Iron Gate premature breach scenario. This is acceptable. 1. Mr. Bransom's September 29, 2023 letter requesting authorization to commence drawdown and removal of project works included KRRC's additional risk analyses and risk reduction measures as well as the BOC's evaluation of these. The September 29, 2023 submittal is currently under review and will be addressed by separate letter.
19	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) Response to Letter Dated September 29, 2023 Regarding Human Remains Identified at the Lower Klamath Project (P-14803)	The letter to FERC affirms that KRRC compiled with the Historic Properties Management Plan (HPMP) and the Monitoring and Inadvertent Discovery Plan (MIDP) requirements and all state and federal laws and regulations regarding the discovery of human remains. The information regarding the human remains, the requirements that were followed and other specific information was marked classified due to confidential information.
20	2023 Annual Alignment Survey Plan, Lower Klamath Project	<p>This FERC letter acknowledges KRRC's September 15, 2023 letter transmitting 2023 Annual Alignment Survey Plan for the Lower Klamath Project, FERC No. 14803. FERC has the following comments:</p> <ol style="list-style-type: none"> 1. Your proposal to perform alignment surveys at the J.C. Boyle and Iron Gate developments in September 2023 and submit a report summarizing alignment survey results is acceptable. We have received the alignment survey reports for these two developments, and they are currently under review. 2. The proposal to rely on post-blast survey results for alignment monitoring at Copco No. 1 is acceptable. The post-blast alignment surveys should continue until both the adit and diversion tunnel plug blasts have been completed. Summarizing these surveys in the post-blast reports is adequate, and any measurements outside of pre-determined limits should be reported to this office immediately.
21		<p>This FERC letter acknowledges KRRC's September 15, 2023 letter transmitting the 2020 Tainter Gate Inspection Report Updated Plan and Schedule Response for the J.C. Boyle Development of the Lower Klamath Project, FERC No. 14803. FERC has the following comments:</p> <ol style="list-style-type: none"> 1. The proposed enhanced visual monitoring during gate operation is acceptable. A summary of the observed condition of the chains should be included in monthly construction reports until the reservoir is drawn down below the ogee crest. 2. Your proposal to pass flow through the two remaining gates in the event of a



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		spillway gate chain connection failure while repairs are made is acceptable provided the repairs can be made quickly during high flows. Stoplogs should be placed in a location where they are readily available until the gates are no longer needed to pass flow.
22	Klamath River Renewal Corporation submits Lakeview Road Bridge Construction Documents for the Lower Klamath Hydroelectric Project under P-14803.	This is marked as confidential and is therefore unavailable for review.
23	Lower Klamath Hydroelectric Project (FERC No. P-14803-001) Lakeview Bridge Construction Documents	This is marked as confidential and is therefore unavailable for review.
24	Response to Report Regarding Human Remains Discovery	This FERC letter addressed to William E. Simpson II acknowledges his letter to FERC concerning the discovery of human remains. FERC concludes that KRRC has acted accordingly and otherwise followed all state and federal laws and regulations regarding the discovery of human remains.
25	Lower Klamath Project (FERC No. P-14803-001); September 2023 Monthly Construction Report Response, Iron Gate Development, Lower Klamath Project	<p>This submittal includes only a cover letter from KRRC, as the attachments are labeled confidential. The submittal address FERC and the BOC's comments/concerns regarding the drilling activities in the Iron Gate Tunnel. The following attachments are designated CEII: Knight Piesold memorandum dated November 22, 2023: "Response to FERC Letter P14803, September 2023 Monthly Construction Report Response, Iron Gate Development, Lower Klamath Project", Iron Gate - Discovered Change of Condition (Drill Tech Memo), KIEWIT-SUB-KP-000031-00-Submittal 164 – Iron Gate Anchor Drill Procedure (2023/09/27) and Board of Consultants (BOC) Review of the Knight Piesold Memorandum. KRRC also included the following responses to the BOC's review comments on the Drill Tech memo:</p> <ol style="list-style-type: none"> 1. The BOC summary of the proposed anchor design and implementation is consistent with our proposed workplan. 2. Drill Tech will drill and install the casing through the loose material and will socket the casing into competent rock by a minimum of 6 inches. Following installation of the casing, Drill Tech will proceed to drill through the casing and into the competent rock. Monitoring the drilling progression as well as drill cutting will help verify if the casing is seated in hard rock. Sound rock is defined as requiring a significant and consistent change in the drilling effort. The design engineer will be onsite to monitor the drilling effort and confirm when sound rock has been reached. The anchors will be set and grouted to the top of casing (bottom of baffle). Drill Tech will then install the metal baffle, rebar, and pour the baffle in. The anchors will have block outs as shown in the plans to allow for post tensioning to occur once the baffle concrete has come to strength.



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		<p>3. Additional field investigations will be completed as we continue work to determine the extent of the existing void. This information will then be provided to the BOC, FERC, and California Division of Safety of Dams.</p>
26	Response to Request for Authorization to Begin Drawdown and Removal of Project Works, Lower Klamath Project	This FERC letter acknowledges KRRC's letter on September 29, 2023 transmitting information related to the Project Works Removal for the Lower Klamath Project, FERC No. 14803. FERC has many comments. The full letter is attached to this report. FERC requests that within 15 days KRRC responds with a plan and schedule.
27	Authorization for Construction, Lakeview Bridge, Iron Gate Development, Lower Klamath Project	FERC letter acknowledges KRRC's letter dated November 21, 2023 transmitting information related to the proposed Lakeview Bridge construction at the Iron Gate Development of the Lower Klamath Project, FERC No. 14803. Upon review, FERC did not find any significant deficiencies or errors that would affect the safety of the project works or the adequacy of the project works to perform their intended functions. The letter authorizes KRRC to begin construction of Lakeview Bridge. FERC requires that KRRC formally submit construction plans and specification for any structures intended for long-term public use not already included in the construction documents submitted to date. FERC reminds KRRC that prior to start of work, all necessary preconstruction license article requirements must be met. In addition, all of the necessary state, local, and federal permits that are required must be secured. During construction, it is KRRC's responsibility to ensure that construction practices conform to the requirements of the Project License and applicable permits, to minimize erosion and other environmental impacts. FERC notes that If the plans and specifications are revised during the construction process, it is KRRC's responsibility to ensure these changes are properly coordinated between the Engineer-of-Record, Project Manager, Chief Dam Safety Engineer, and the FERC in advance.
28	Facilities Termination Plans, Lower Klamath Project	<p>This FERC letter acknowledges KRRC's letters on September 22, 2023 and November 2, 2023 transmitting the Powerhouse Facility Termination Execution Report for the Copco No. 2 Development and overall Facilities Termination Plans (FTP) for the J.C. Boyle, Copco No. 1, and Iron Gate Developments of the Lower Klamath Project, FERC No. 14803. FERC has the following comments:</p> <ol style="list-style-type: none">1. You must ensure proper training is provided to KRRC staff and/or their designees in the operation of any equipment that may be necessary after Facility Termination Plan execution to pass flows until the equipment is removed.2. There is disagreement between the drawdown dates provided in the January 13, 2023 schedule and the Facility Termination Plan execution date of January 4, 2024 for the three high hazard developments. Based on a November 21, 2023 conversation between Ms. Elisabeth Jacquot-Matt of this office and Mr. Gary Lee of McMillen, the actual Facility Termination Plan execution dates for the three developments are currently being revised. Please provide the



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revised dates and any Facility Termination Plan updates to this office for review. Please confirm that the revised schedules resolve any conflicts between the construction schedule and Facility Termination Plans for the J.C. Boyle, Copco No. 1, and Iron Gate developments. In particular, ensure that all components needed for drawdown and/or passing inflows are still operational if/when needed.

1. You may not begin the drawdowns until the above comments are resolved and we issue a letter authorizing the drawdowns to begin.
FERC requests KRRC response within 15 days of receipt of this letter.

FEDERAL ENERGY REGULATORY COMMISSION
Office of Energy Projects
Division of Dam Safety and Inspections – Portland Regional Office
1201 NE Lloyd Blvd, Suite 750
Portland, Oregon 97232
(503) 552-2700

11/29/2023

In reply refer to:
P-14803

VIA Electronic Mail

Mark Bransom
Chief Executive Officer
Klamath River Renewal Corporation
mark@klamathrenewal.org

Shannon Davis
Eastern Regional Administrator
Oregon Department of Environmental Quality
Shannon.davis@deq.oregon.gov

Tony Meyers
Principal Operating Officer
State of California, Department of Water Resources
anthony.meyers@water.ca.gov

Subject: Response to Request for Authorization to Begin Drawdown and Removal of
Project Works, Lower Klamath Project

Dear Mr. Bransom, Ms. Davis, and Mr. Meyers:

This letter is to acknowledge Mr. Bransom's September 29, 2023 letter transmitting the following information related to the Project Works Removal for the Lower Klamath Project, FERC No. 14803:

Attachment	Document Title
A	Drawdown Period Emergency Action Plan and Training Schedule (EAP)
B	Updated Temporary Construction Surveillance and Monitoring Plan (TCSMP)
C	Updated Temporary Construction Emergency Action Plan (TCEAP)

Attachment	Document Title
D	Debris Management Plan
E	Water Management Overview and Semi-Quantitative Risk Assessment (SQRA) of Iron Gate Dam
F	BOC Response to KRRC's Risk Assessment and Risk Reduction Measures for the Removal of Iron Gate Dam

We have reviewed the submitted information in conjunction with the proposed drawdown period activity design, plans and specifications, QCIP, and construction schedule submitted by your January 13, 2023 and April 5, 2023 letters, and have the following comments:

1. The most recent project schedule that we have received was submitted on January 13, 2023. Please submit a revised project schedule for the drawdown year if the previously submitted schedule is obsolete.
2. The EAP, TCEAP, and TCSMP referred to previously submitted management plans for specific information. As noted in Comment 4 from our October 6, 2022 letter that provided preliminary review comments on the June 29, 2022 construction documents submittal, the construction documents should be able to be used as ready-references during construction and should therefore include all relevant information in a stand-alone format. Please provide any pertinent information (e.g. tables, figures, text) from the referenced documents in the applicable parts of the construction documents, or attach the referenced management plans to the construction documents for quick reference.
3. Blasting is one of the proposed methods to remove Copco No. 1 Dam. If blasting is used for this purpose, submit individual pre-blast plans and post-blast reports in accordance with the process described in our July 12, 2023 letter.
4. EAP
 - a. The EAP cover page should include the National Inventory of Dams (NATDAM) ID numbers for the three developments covered under this EAP. The ID numbers are included in the individual development EAP sections, so an interim update is not required. However, KRRC should add this information prior to distributing any future EAP updates.
 - b. Per Section 6-3.2.2 of Chapter 6 of our Engineering Guidelines, the EAP should be signed by all parties involved in plan implementation to ensure that everyone is aware of the plan and understands the agreed-upon responsibilities. In addition, a verification form should be included. Please revise your EAP to include this information.
 - c. EAP Section 2.3.3, *Evaluation of Detection and Response Timing*, should include evaluation of the total EAP implementation time from

the initiation of an actual incident to determination of an emergency situation and notification of appropriate entities involved with implementation. Please expand this section to include discussion of the total EAP implementation time.

- d. Consider adding the development name to the footer on each page of the respective development's EAP section to avoid confusion in the event of a dam safety emergency.
- e. The J.C. Boyle EAP references the Public Safety Plan (PSP) submitted with the January 13, 2023 Lower Klamath Removal Project construction package for information pertaining to public warning signs and recreation site access restrictions. However, the signage and access restrictions described in the EAP are not shown in the PSP. Please provide an updated PSP including the results of coordination with other agencies to restrict public access to recreation sites, a list of each existing safety device, and a schematic drawing showing the general location of each device.
- f. The EAP flowchart contacts for the FERC-Portland Regional Office should be revised to only include the following individuals:
 - i. Douglas Johnson
Regional Engineer
Office: (503) 552-2715
Cell: (253) 691-6908
Douglas.johnson@ferc.gov
 - ii. Eric Kennedy
Branch Chief
Office: (503) 552-2722
Cell: (202) 839-7612
Eric.kennedy@ferc.gov
- g. The EAP states that "All Renewal Corporation dam removal contractors (McMillen, Kiewit, and their dam safety personnel) are authorized to activate the EAP at any level, initiate EAP notifications, and initiate emergency actions necessary to remediate or mitigate the emergency condition." However, the EAP Training Schedule does not include contractor personnel training. While we understand that training the full complement of personnel involved in the removal in all aspects of EAP administration is not practical, KRRC should provide training to all personnel on site in what conditions may indicate a developing dam safety emergency and who should be notified if they observe any such conditions.

- h. The EAP Training Schedule included tentative exercises on December 13, 2023 and February 21, 2024. Please coordinate these exercises with Ms. Elisabeth Jacquot-Matt of this office.
- i. We note that Tables 3-1 and 4-1 of your EAP state that at a flow of 8,500 cfs, R Ranch and the Blue Heron RV Park start to flood, but that your High-Flow Notification Charts do not include these entities. Please include notification of R Ranch and the Blue Heron RV Park in the relevant High-Flow Notification Charts or justify why this is unnecessary. We also recommend discussing R Ranch, Blue Heron RV Park, and any other areas potentially impacted by high flows and/or project failures with local EMAs to ensure procedures are in place for warning these residents during large floods.

5. TCSMP

- a. The Risk Reduction Opportunities (RROs), identified in Table 3-3, cPFMA Identified Opportunities for Risk Reduction – September Review Status, require formal submittals and BOC review and concurrence. For RROs that have already been “closed”, the BOC should comment on whether they have been satisfactorily addressed or if they require any follow-up actions. We believe that the following RROs may require particular consideration:
 - i. J.C. Boyle RRO #5: Specifications were modified to include BOC recommendations. Final revisions may be required based on final geotechnical assessment of base of scour hole.
 - ii. J.C. Boyle RRO #6: Planned site geotechnical evaluation for early in Drawdown when safe access is available to the base of the scour hole.
 - iii. Iron Gate RRO #2: Develop and implement a plan to leave the penstock in place at Iron Gate Dam during embankment removal with the intent of utilizing that penstock as an emergency spillway at various levels of the dam removal to mitigate an overtopping event.
 - iv. Iron Gate RRO #4: Optimal excavation plan will be finalized in the spring of 2024 once the BOR finalizes its flow guidance for that year. Excavation plan will outline sequence of what portions of embankment are removed by which dates to target breach in the lowest historical flow periods of July/August of 2024.
 - v. Iron Gate RRO #5: Kiewit will prepare drawings for extended breach channel by the end of December 2023.

- b. The TCSMP Section 4.2.3 states that “Temporary monuments may be installed on the upstream and downstream face to support weekly monitoring as the dam removal progresses.” The J.C. Boyle embankment should be surveyed before and immediately following the stoplog culvert blasting using the existing survey monuments to assess displacements. In addition, temporary monuments should also be installed as needed and weekly survey monitoring should be performed as described in Section 4.2.3.
- c. Section 10.0 states that TCSMP reporting will be provided “electronically to FERC monthly.” The surveillance and monitoring reports provided to us may be abbreviated but must be formally submitted to the Commission in the monthly construction reports during the drawdown period and include a summary of all surveillance and monitoring activities performed, findings from those activities, and any actions that were taken to address abnormal findings.
- d. The TCSMP relies heavily on visual observation to detect developing construction potential failure modes. Any observations that require follow-up should be reported to this office immediately and documented in the reports described above in Comment 5c, above.
- e. Section 8.2 of the TCSMP describes Threshold and Action Items, but threshold and action levels are not clearly defined throughout the TCSMP. Per Chapter 14 of the Commission’s Engineering Guidelines, provide a table of threshold and action levels for each instrument, or group of instruments, for each dam and each phase of construction. This information should be readily accessible and presented in a manner that can be easily understood in order to make expedient dam safety decisions. We note that the TCSMP references other documents for threshold and action levels, but your TCSMP should also include these levels so that it is a standalone, ready-reference document.

6. TCEAP

- a. In the Drawdown TCEAP notification flowchart, it is unclear whether the observer or the Foreman/Superintendent is expected to call the Kiewit Project Manager and 911. Please update the flowchart to clearly identify who is expected to make these calls.
- b. TCEAP training and drills should be summarized in the monthly construction report for the month they are performed.
- c. Numerous surveillance and monitoring measures listed in Tables 4-1, 5-1, and 7-1 to monitor for construction PFMs may require instrumentation (e.g. reservoir levels, flows, ground motions, embankment/structural displacement, leakage/seepage), but no threshold

or action levels are specified for when the TCEAP will be activated and when evacuation will occur. Please revise the TCEAP to include this information where applicable.

7. Debris Management Plan

- a. Blasting is proposed as one of the debris mitigation plans. The height from the tunnel to the top of the dam is approximately 100 feet. Provide a detailed plan as to how this will be accomplished and the type of explosives that would be used if blasting is required.
- b. The November 2, 2023 Copco No. 1 Adit and Diversion Tunnel Revised Master Blast Plan included general discussion of how rubble would be removed in the event that the Copco No. 1 Adit final plug shot is not fully successful. The overall debris management plan should include a description for potential scenarios of how the rubble will be removed in the event that the Adit is blocked with rubble.

8. Water Management Overview and SQRA of Iron Gate Dam

- a. It appears that the maximum and minimum reservoir elevations are inconsistent with the legends in Figure 1-4. Please clarify this inconsistency.

9. BOC Response to Risk Reduction Measures

- a. We concur with the following BOC recommendations, which will require formal submittals and BOC review and concurrence, as noted in Comment 5, above:
 - i. The Board recommends that the contingency plan to safely convey overtopping flows through the existing penstock, should the embankment be threatened to be overtopped, include detailed sketches and instructions on how it is to be implemented if needed. This plan must be finalized before removal of Iron Gate Dam is initiated.
 - ii. The Board also suggests that consideration be given to using the rock fill material on the downstream slope of the Iron Gate embankment as overtopping erosion resistance by pushing it down the slope rather than removing it so that the rock fill layer becomes thicker as the dam embankment is being lowered.
- b. We note that the BOC's September 22, 2023 memorandum, *Response to KRRC's Risk Assessment and Risk Reduction Measures for the Removal of Iron Gate Dam*, states that the BOC "believes that KRRC has satisfactorily responded to the Board's concerns and looks forward to a safe and successful removal of Iron Gate Dam. The Board concurs that removal plans as currently developed and under development are

sufficient to begin reservoir drawdown on January 1, 2024.” However, it is unclear whether the BOC’s assessment pertains to all the developments, whether their statement reflects an evaluation of all the finalized documents included in this September 29, 2023 submittal, and whether they believe that other drawdown year activities should be authorized in addition to the initiation of drawdown on January 1, 2023. Please provide the BOC’s concurrence that the documents contained in this submittal are satisfactory or if follow-up actions are necessary to proceed with drawdown year activities at all the developments, except for the removal of Iron Gate Dam.

Within 15 days of the date of this letter, please respond to or submit a plan and schedule to address the comments above. File your submittal using the Commission’s eFiling system at <https://www.ferc.gov/ferc-online/overview>. When eFiling, select Hydro: Dam Safety and Portland Regional Office from the eFiling menu. The cover page of the filing must indicate that the material was eFiled. For assistance with eFiling, contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY).

Thank you for your continued cooperation and interest in dam safety. If you have any questions, please contact Ms. Elisabeth Jacquot-Matt of this office at (503) 552-2712.

Sincerely,

Douglas L. Johnson, P.E.
Regional Engineer