Bureau of Reclamation
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Addendum to Final 2023 Restoration Allocation & Default Flow Schedule September 26, 2023

Summary

This addendum changes the available channel capacity for a specific period of time; no other aspects of the May 18, 2023 Restoration Allocation and Default Flow Schedule are changed. A period of interruption of flows passing Mendota Dam, approximately December 3 through December 9, is needed to accommodate Mendota Dam safety inspection and repair.

Operational Constraints and Considerations

The Central California Irrigation District (CCID) reached out to Reclamation indicating that they planned to conduct a safety inspection at Mendota Dam and complete other repairs which would require dewatering of the pool behind Mendota Dam. During this time, CCID would be unable to pass Restoration Flows through their structure. Mendota Dam was last dewatered and inspected in late 2016. At that time, it was hoped that Reclamation would have completed the compact bypass around Mendota Pool before the next dewatering and dam safety inspection, however bypass completion is still multiple years away.

A formal request and notification was sent by CCID and received by Reclamation on September 21. This notification letter is included as an attachment to this allocation addendum.

California Division of Safety of Dams (DSOD) requires routine maintenance of Mendota Dam due to its history of water piping underneath and around the dam and causing voids which threaten the stability of the dam. In addition to the 2016 dewatering and inspection, a 2018 inspection identified the need for future and regular inspections. CCID has developed a schedule consistent with DSOD reports which requires the next inspection underneath the dam by the end of 2024. Such an inspection requires dewatering the downstream side of the dam to expose inspection ports through the horizontal concrete floor of the dam. Additional repairs stemming from 2023 flood flows are facilitated by dewatering of the upstream side (i.e. draining Mendota Pool).

While technically this inspection and dewatering could be delayed an additional year, CCID has indicated their concern given the magnitude of flood flows in 2023 which were second only to the 1983 flood flows. Additionally, a higher chance of repeat flood flows in the coming El Niño

year point to conducting the Mendota Dam inspection and repairs this year to reduce potential disruption of South-of-Delta supplies for agriculture and wildlife refuges and to ensure protection for life and property.

Paragraph 18 of the Settlement states:

> *18. ... The Secretary shall consider and implement these recommendations to the extent consistent with applicable law, operational criteria (including flood control, safety of dams, and operations and maintenance), and the terms of this Settlement...*

Condition 14 of the 2013 Water Rights Order authorizing Restoration Flows states:

> *14. The authorization to release and to dedicate SJRRP flows for instream use at Friant Dam shall not be construed as authorizing any act that results in damage that could result in imminent failure to: (a) private levees located along the San Joaquin River, (b) facilities, including levees and related structures, which are part of the San Joaquin River Flood Control project, (c) Mendota Dam, (d) bifurcation structure at Chowchilla Bypass, (e) Sand Slough control structure, or (f) headworks of Mariposa Bypass. Reclamation shall be responsible for operating the SJRRP in a way that does not result in such damage.*

From these Settlement and Water Right paragraphs, as well as other SJRRP compliance document commitments, Reclamation concludes that Restoration Flows must defer to dam safety when in conflict. Reclamation's approach to this safety of dams scenario is to cooperatively work to shorten the interruption duration and to encourage project timing which is least detrimental to the Restoration Goal. Complete interruptions to Restoration Flows would not be considered for routine maintenance activities.

Review of juvenile salmonid movement data from past years indicate that fry and parr do not typically start to move downstream below Hwy 99 until January at the earliest, and more likely February and March. In a few years, a portion of Rotary Screw Trap efficiency fish released in Reaches 1 and 2 have been captured in the Delta in April and May, indicating they likely emigrated past Reach 3 as early as February. There is no intent to encourage fall-run Chinook Salmon to migrate into the Restoration this year and the Hills Ferry Barrier is currently in place, so fall-run are not a factor of concern during the interruption to flows. Spring-run adult Chinook Salmon have typically completed their life cycle and died by December. Other anadromous fish, such as lamprey, are not likely to be present in affected reaches during the planned dewatering. Green and White Sturgeon are spring migrators and would not be expected in the Restoration Area earlier than February, but more likely March. Indeed, fish biologists captured an adult Green Sturgeon in Reach 5 of the Restoration in April 2020 and White Sturgeon have been captured in Reach 5 in March 2019 and April 2020. Additionally, White Sturgeon tagged with acoustic telemetry tags by FWS were typically detected in the San Joaquin River and lower reaches of the Restoration Area from late March through early May. Fisheries impacts from this Mendota Pool drainage are likely to be borne by native non-anadromous riverine fish and riparian ecosystems in Reach 3, Reach 4A, and the Eastside Bypass.

Mitigation Measures

Reclamation engaged with CCID to ascertain whether some Restoration Flows could still be passed during this inspection and repair work. Inspections at other dams often use sheet-piles or coffer dams to route flows around active work areas. The physical structure of Mendota Dam does not lend itself well to this approach without considerable cost. Coffer dams would be needed on both the upstream and downstream side of the dam to accomplish the inspection work.

Reclamation is coordinating with CCID to minimize the duration of impact and select optimal timing given the difficulty of passing flows during the inspection combined with the likelihood that this will be the last dewatering that would be required before completion of the compact bypass. CCID and Reclamation were able to agree upon an early December work window which minimizes impacts to fish, avoids possible flood management releases, and has other advantages. Through discussions with CCID, a work plan was developed which reduced the period of dewatering from 4-6 weeks (as happened in late 2016) to about 1 week. This faster implementation will be accomplished through a production-line approach to work — breaking labor into specialty crews (inspection engineers, concrete patching, board guide inspection and removal, board guide installation, and board installation) and sequencing of work. A listing of planned flow constraints at the Gravelly Ford gauge (GRF) and the Below Bifurcation gauge (SJB) are shown below (see Table A). With tight coordination, changes to Restoration Flow releases at Friant Dam can be precisely timed to minimize the outage period (see Table B).

Coordination

Parties concur that daily coordination will be essential during this time. It is agreed that representatives from CCID, SJRRP, SCCAO (Friant Dam), the Restoration Administrator, and potentially Kings River Water Association (Pine Flat Dam) will meet each afternoon to share flow status, work progress, and other coordination requirements. A meeting time of 4 pm is suggested, commencing approximately 6 days before dewatering.

Reclamation will coordinate with LSJLD to allow easier completion of routine maintenance work without Restoration Flows present, including cleaning of San Joaquin River Control Structure trash rack. Completion of this maintenance will benefit fish passage.

The schedule and values in Table A and B are for planning purposes and are the best information we have at this juncture. Dates and project sequencing may be adjusted as conditions require. Any changes will be coordinated with all parties.

Alternate Flow Routing

During this dam safety and repair work, Arroyo Canal will continue to divert water to meet refuge and agricultural demands. This water is being drawn from the Delta-Mendota Canal (DMC) and routed through the Firebaugh Wasteway, which connects the DMC to Reach 3. Wasteway water intersects Reach 3 7.8 miles downstream of Mendota Dam. This action will keep 15 of the 23 miles of Reach 3 wetted during this project work.

The Restoration Administrator has identified the Firebaugh Wasteway as a potential avenue to keep the San Joaquin River wetted and connected below Sack Dam through the Eastside Bypass. This could potentially be accomplished with a volume of water in San Luis Reservoir under SJRRP control. This volume would be routed through the DMC, shunted into the Firebaugh Wasteway alongside the flows bound for Arroyo Canal and released to the San Joaquin River.

SJRRP has engaged with the State Board to determine what permits, if any, would be necessary for such a release. Additionally, Reclamation would have to utilize an existing Unreleased Restoration Flow (URF) Exchange or develop a new URF Exchange to acquire the necessary volume in San Luis Reservoir to meet the Restoration Administrator's flow objectives. At this time, SJRRP believes this is a reasonable and achievable approach to keeping the San Joaquin River connected and wetted from Sack Dam to the end of the Eastside Bypass (beyond the Eastside Bypass is perennially wetted). SJRRP will continue to pursue this as an option for the Restoration Administrator in the coming weeks.

Request for Revised Restoration Flow Schedule

The Restoration Administrator is requested to return a revised schedule to Reclamation which 1) reflects this interruption, 2) revises the flow schedule before and after the interruption, including required ramping rates to meet any relevant fisheries concerns, and 3) identifies the flow rate for any proposed Firebaugh Wasteway releases. Response is requested by October 30, 2023, which should allow time for further logistics to be resolved on alternative water routing.

Table A — Effective Flow Constraints during Project

Date	SJB Flow Rate	Corresponding GRF Flow Rate
Nov 27	No constraint	No constraint
Nov 28	No constraint	No constraint
Nov 29	No constraint	No constraint
Nov 30	No constraint	≤125 cfs (or as needed to have <75 cfs at SJB)
Dec 1	< 75 cfs	≤75 cfs (or as needed to have <25 cfs at SJB)
Dec 2	< 25 cfs	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 3	Approaching zero	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 4	0 cfs	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 5	0 cfs	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 6	0 cfs	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 7	0 cfs	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 8	0 cfs	≤50 cfs (or as needed to have 0 cfs at SJB)
Dec 9	0 cfs	No constraint, provided work is proceeding on schedule
Dec 10	No constraint, provided work is proceeding on schedule	No constraint, provided work is proceeding on schedule
Dec 11	No constraint, provided work is proceeding on schedule	No constraint, provided work is proceeding on schedule
Dec 12	No constraint, provided work is proceeding on schedule	No constraint, provided work is proceeding on schedule

Table B — Tentative Schedule of Project Actions

Project Day	Date	CCID Actions	Restoration Flow Actions	Sack Dam Actions
-6	*Mon, Nov 27*	Begin daily coordination meetings, Friant Dam staff standing-by to make release change 1600-1800		
-5	*Tue, Nov 28*	Normal operations	On or before this date, Friant Dam release should be adjusted to meet targets at GRF and SJB	
-4	*Wed, Nov 29*	Normal operations		
-3	*Thu, Nov 30*	Normal operations		
-2	*Fri, Dec 1*	Mendota Pool dewatering commences		
-1	*Sat, Dec 2*	Dewatering continues		Arroyo Canal diversions utilize MP drainage

Table B — Tentative Schedule of Project Actions (continued)

Project Day	Date	CCID Actions	Restoration Flow Actions	Sack Dam Actions
0	*Sun, Dec 3*	Pool dewatering complete	Any potential SJRRP releases through DMC/Firebaugh Wasteway would have to commence on or before this day for continuity	AC deliveries commence utilizing Firebaugh Wasteway; Restoration Flows arriving from Friant Dam cease passing Sack Dam this day
1	*Mon, Dec 4*	Dam inspection commences Board guide removal commences	Restoration Flows passing SJB should stabilize at 0 cfs	
2	*Tue, Dec 5*	Concrete repair commences Board guide replacement commences Board replacement commences Inspection complete Board guide removal complete		
3	*Wed, Dec 6*	Board Guide replacement complete Decision point on completion schedule	Friant Dam staff standing-by to make release change 1600-1800	
4	*Thu, Dec 7*	Board replacement continues Concrete repair continues		
5	*Fri, Dec 8*	Board replacement complete Concrete repair complete Remove scaffolding and equipment		
6	*Sat, Dec 9*	Additional work as needed		
7	*Sun, Dec 10*	Additional work as needed Begin refilling pool	Earliest opportunity for Restoration Flows resuming at Friant Dam to begin arriving at Mendota Dam	
8	*Mon, Dec 11*	Normal operations		Restoration Flows routed through Mendota Dam potentially begin passing Sack Dam
9	*Tue, Dec 12*	Normal operations		Normal operations

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September 21, 2023

Chadwick Moore, Program Flow Coordinator
San Joaquin River Restoration Program
United States Bureau of Reclamation

Dear Mr. Moore:

Central California Irrigation District (CCID) is the owner and operator of Mendota Dam. As you are aware, this past year we experienced the longest flood season through Mendota Pool since the 1983 event. The Mendota Pool has been historically dewatered every few years to perform a safety inspection on the facility in coordination with the California Division of Safety of Dams (DSOD) to ensure structural integrity and survey for hydraulic piping under the dam. The last time this occurred was in 2016. We plan to dewater the pool for the safety inspection and to make the necessary repairs starting December 1, 2023. We currently anticipate needing the pool dewatered for one week to safely perform the necessary inspection and maintenance. CCID is requesting to coordinate with the Bureau of Reclamation to provide a flow outage at Mendota Dam at this time. There is potential to start partially refilling the Mendota Pool after a few days so long as no major repairs are needed on the upstream side of the dam and no substantive flows are spilling through the facility while crews continue to work from the downstream side of the dam. We will be watching the forecast closely and may need to modify our schedule based on potential flood releases down the San Joaquin River and/or the Kings River. We look forward to continued collaboration to accomplish this necessary safety task as expeditiously as possible.

If you have any questions, please reach out to me directly.

Very truly yours,

Jarrett Martin
General Manager

cc: Kristin White (USBR)
Don Portz (USBR)
Regina Story (USBR)
Michael Jackson (USBR)
Chris White (SJRECWA)
Federico Barajas (SLDMWA)