

## **Amendment 1 to Attachment B**

### **2022 Drought Response Operations Plan**

#### **Operational Adjustments at Glen Canyon Dam**

##### **Overview**

This document amends Attachment B of the 2022 Plan to make operational adjustments at Glen Canyon Dam from December 2022 through April 2023 in response to changing conditions. Section 8 of the 2022 Plan requires monitoring activities, to provide “sufficient flexibility to “begin, end, or adjust Drought Response Operations as needed based on actual hydrologic conditions.” Section 8 of the 2022 Plan further contemplates that, “[b]ased upon monitoring activities, and only upon mutual agreement of the DROA Parties, any Plan may be modified, adjusted, or ended through the adoption of an amendment to the applicable Attachment(s).” This document amends Attachment B because it concerns Glen Canyon Dam operations through the course of the 2022 Plan. Any terms contained in Attachment B of the 2022 Plan not expressly amended herein shall remain unchanged.

##### **Hydrology**

Since the 2022 Plan was approved, additional information about hydrology and operations has become available, and the operational adjustments described in this document are intended to address these updated hydrologic conditions in part.

Shortly after the 2022 Plan was approved, the Department of the Interior announced on May 3, 2022, it was implementing an action under Sections 6 and 7.D of the 2007 Interim Guidelines specifically reducing the Glen Canyon Dam annual releases from 7.48 maf to 7.00 maf in water year 2022. The reduction of releases from Glen Canyon Dam in water year 2022 will not affect future operating determinations and will be accounted for “as if” this volume of water had been delivered to Lake Mead.

For water year 2023, the August 2022 24-Month Study projected the January 1, 2023, Lake Powell elevation to be less than 3,525 feet. (The August 2022 24-Month Study modeled 2023 and 2024 operations at Lakes Powell and Mead as if the 0.480 maf had been delivered to Lake Mead for operating condition purposes both for the U.S. Lower Basin and for Mexico.) Consistent with Section 6.D.1 of the Interim Guidelines, Lake Powell’s operations in water year 2023 are governed by the Lower Elevation Balancing Tier with an initial projected water year release volume of 7.00 maf. Because the 2022 operations were designed to protect critical elevations at Lake Powell, Reclamation committed to implement Lower Elevation Balancing Tier operations in water year 2023 to protect these critical Lake Powell elevations. Specifically, Reclamation modeled water year 2023 operations to include the Glen Canyon Dam annual release being initially set to 7.00 maf. This Glen Canyon Dam annual release will be evaluated in April 2023 based on hydrologic conditions to determine if balancing releases may be appropriate under the conditions established in the 2007 Interim Guidelines.

The elevation of Lake Powell as of November 29, 2022 is 3,528.13 feet. The October 2022 most probable 24-month study projected that the water surface elevation at Lake Powell will decline below the Target Elevation of 3,525 feet beginning December 2022 through April 2023. The most recent November 2022 most probable 24-month study projects a decline as low as 3,510 feet. This projected decline equates to 15 feet below the Target Elevation and only 20 feet above minimum power pool elevation of 3,490 feet. Additionally, the October 2022 ensemble streamflow prediction provided by the Colorado Basin River Forecast Center and resulting Colorado River Mid-Term Modeling System projections show multiple traces of Lake Powell elevation declining to within a foot of minimum power pool as early as March 2023.

### **Glen Canyon Dam Adjustments**

Section II(A)(3)(c)(i) of the DROA states that “[o]perational adjustments in monthly volumes at Glen Canyon Dam will be considered first to minimize the risk of Lake Powell declining below the Target Elevation...” This requirement is also acknowledged in Section 5.2.2 of the 2022 Plan. Section 4.b. of Attachment B of the 2022 Plan expressly acknowledged the potential for operational adjustments in spring of 2023 and that “[t]hese operational adjustments will be based on projections of the Target Elevations at Lake Powell during winter and spring 2023.”

This Amendment to Attachment B of the 2022 Plan is being implemented to reflect the immediate action needed to mitigate the risk of declining elevation at Lake Powell through proposed changes to monthly releases at Glen Canyon Dam beginning December through April 2023.

Figure 1 below reflects the proposed adjustments to the monthly releases from December 2022 through April 2023 for a total of 523,000 acre-feet.

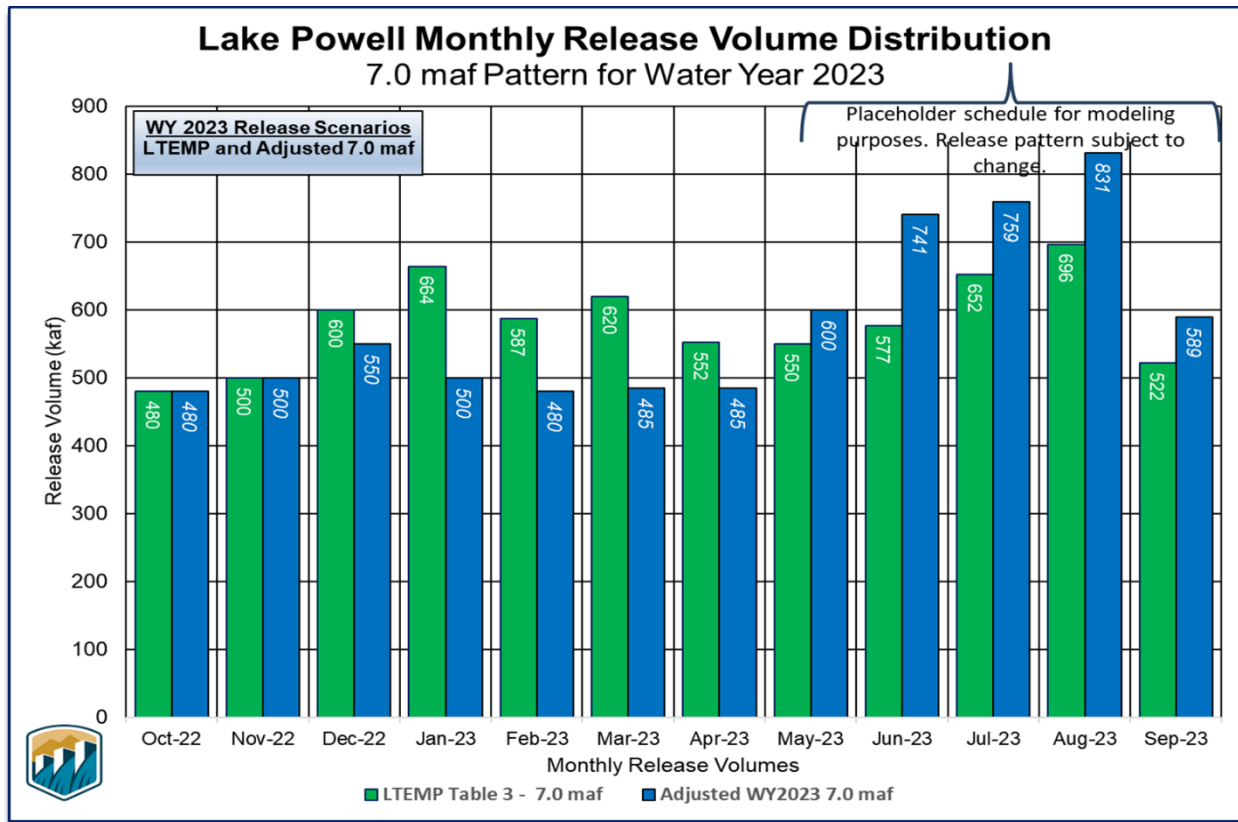


Figure 1.

The operational adjustments proposed in this amendment are projected to reduce the duration Lake Powell is expected to be below the Target Elevation of 3,525 feet by one month. This action is designed to raise the lowest projected Lake Powell elevation for March 2023 from 3,510 feet to 3,518 feet.

The proposed monthly adjustments are similar to the ranges of monthly adjustments that occurred in January through April 2022, as described in Attachment B, Section 4 of the 2022 Plan. These types of adjustments are expressly contemplated in the Long-Term Experimental and Management Plan (LTEMP), as described in Section 5.2.2 of the 2022 Plan. Additionally, the monthly releases in question are within the lower bounds of the monthly release ranges described and analyzed in LTEMP, as summarized in LTEMP Attachment B, Table 1. All releases will continue to follow LTEMP parameters on sub-monthly—hourly and daily releases—timescales.

The volumes displayed in Figure 1 above from May 2023 through September 2023 are placeholders to demonstrate the planned 7.0 million acre-feet release requirement under the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead. The amount actually withheld will be added to releases beginning in May 2023 and continuing through September 2023 on a schedule that has yet to be determined. Actual monthly releases may vary from Figure 1, based on discussions provided for in LTEMP, as we get closer to May 2023 and when more about hydrology will be known.

Reclamation has initiated two National Environmental Policy Act processes that could affect Glen Canyon Dam monthly releases in 2023. One action will consider flows to address predation of native and listed fish by smallmouth bass, and the other action will address the potential to protect critical elevations at Lake Powell and Lake Mead. If such processes affect Glen Canyon Dam releases during the timeframe addressed in this amendment, an additional amendment to the 2022 Plan may be required.

### **Consultation, Coordination, and Outreach**

As discussed in Section 8 of the 2022 Plan, the amendments to a Plan should follow the “Consultation, Coordination, and Outreach” provisions in Section 7 of the 2022 Plan “except when an imminent need does not permit sufficient time” to do so. For this Amendment, Consultation, Coordination, and Outreach have been performed as described below.

**DROA Monitoring Monthly Workgroup:** Monitoring meetings have occurred monthly, as agreed among the DROA Parties. Monitoring information shared has included the most current hydrological conditions and projections. A call was held November 16, 2022, which provided the proposed monthly adjustments. Participants in the DROA Monitoring Monthly Workgroup include the DROA Parties, the Upper Basin Tribes, as well as National Park Service, Fish and Wildlife Service, and Western Area Power Administration.

**Colorado River Basin Tribes:** The Upper Division States have had regular meetings with Upper Division Tribes that have included the status of DROA operations. The Upper Division Tribes have also been invited to the monthly monitoring meetings described above. Reclamation communicated with the 30 Basin Tribes on November 8, 2022 outlining the proposed monthly adjustments.

**Lower Colorado River Division States:** Information regarding proposed changes was presented to Lower Division States on November 18, 2022.

**Glen Canyon Dam Adaptive Management Program:** Reclamation communicated with members of the Adaptive Management Program regarding the proposed monthly adjustments on November 2, 2022.

### **Concurrence of non-Federal DROA Parties**

On November 21<sup>st</sup>, the Upper Division States acting through the Upper Colorado River Commission provided their concurrence to amending the 2022 DROA Plan consistent with the terms of Amendment 1 to Attachment B. The concurrence letter is attached.