Minutes of Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, September 14, 2022

A meeting of the Colorado River Board of California (Board) was held on Wednesday, September 14, 2022, at the Sheraton Ontario Airport Hotel, 429 North Vineyard Avenue, Ontario, California 91764.

Board Members and Alternates Present:

David De Jesus (MWD Alternate)
Dana B. Fisher, Jr. (PVID)
John B. Hamby (IID)
Jeanine Jones (DWR Designee)
Delon Kwan (LADWP Alternate)
Jim Madaffer (SDCWA)
Peter Nelson, Chairman (CVWD)
Glen D. Peterson (MWD)
David R. Pettijohn, Vice Chairman (LADWP)
Jack Seiler (PVID Alternate)

Board Members and Alternates Absent:

Gary Croucher (SDCWA Alternate)
Castulo Estrada (CVWD Alternate)
James Hanks (IID Alternate)
Christopher Hayes (DFW Designee)
David Vigil (DFW Alternate)

Others Present:

Steve Abbott
Nick Bahr
Jim Barrett
JR Echard
Tom Gibson
Chris Harris
Joanna Hoff
Ned Hyduke
Rich Juricich
Lisa Lien-Mager
Tom Levy
Dwight Lomayesva
Aaron Mead
Jessica Neuwerth
Robert Page
Shana Rapoport
Angela Rashid
David Rheinheimer
Kelly Rodgers
Shanti Rosset
Tom Ryan
Alexi Schnell
Tina Shields
Gary Tavetian
Margaret Vick
Chene Watte
Jerry Zimmerman

CALL TO ORDER

Chairman Nelson announced the presence of a quorum and called the meeting to order at 10:09 a.m.

OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD

Chairman Nelson invited members of the audience to address the Board on items on the agenda or matters related to the Board. Hearing none, Chairman Nelson moved to the next item on the agenda.

ADMINISTRATION

Chairman Nelson asked for a motion to approve the August 10, 2022, Board meeting minutes. Mr. Madaffer moved that the minutes be approved, seconded by Mr. Peterson. By roll-call vote, the minutes were unanimously approved.

COLORADO RIVER BASIN WATER REPORTS

Colorado River Basin Report

Mr. Juricich reported that as of September 12th, the water level at Lake Powell was 3,530.11 feet with 5.84 million-acre feet (MAF) of storage, or 25% of capacity. The water level at Lake Mead was 1,043.85 feet with 7.25 MAF of storage, or 28% of capacity. The total system storage was 19.74 MAF, or 34% of capacity, which is 3.65 MAF less than system storage at this time last year.

Mr. Juricich reported that as of September 1st, for Water Year-2022 (WY-2022), the observed August inflow to Lake Powell was 0.37 MAF, or 98% of normal. The September inflow forecast to Lake Powell is 0.24 MAF, or 69% of normal. The forecasted unregulated inflow into Lake Powell for WY-2022 is 6.08 MAF, or 63% of normal and the observed WY-2022 April to July inflow to Lake Powell is 3.75 MAF, or 59% of normal. Mr. Juricich reported that overall precipitation conditions in the Upper Colorado River Basin were 99% of normal.

Mr. Juricich reported on a graphic that shows the Upper Colorado Basin April 1 snow anomaly. He stated that the graphic shows the percent difference from the average. He noted

that starting around the year 2000 there has been more below normal snow water content than above-normal years.

Mr. Juricich presented an updated table showing Lower Basin Side Inflows for August 2022, noting that 2022 summer monsoonal activity increased intervening flows by 283%. Mr. Juricich also showed a photograph of flood damage in Moab, Utah due to monsoonal activity.

Mr. Juricich reported that through the beginning of September, the Brock and Senator Wash regulating reservoirs captured 73,574 AF and 53,901 AF, respectively. He also reported that the excess deliveries to Mexico were 2,425 AF. Finally, the total amount of saline drainage water bypassed to the Cienega de Santa Clara in Mexico was 97, 366 AF.

State and Local Report

Ms. Jones, representing the California Department of Water Resources (DWR), reported the State's WY-2022 precipitation to date is 74% of historical average and the statewide reservoir storage was close to 70% of average.

Ms. Jones displayed a chart showing record-breaking temperatures that occurred during the statewide heatwave in September 2022, noting that the heatwave impacted other states in the West. She stated that record temperatures occurred in parts of the North Coast and the Bay Area.

Board member Peterson, representing The Metropolitan Water District of Southern California (MWD) reported that as of September 1st, MWD's reservoir storage is 64% of capacity. He reported on the shutdown of MWD's Santa Ana pipeline and that it will be back in service later that day.

Chairman Nelson remarked that California has received criticism for not curtailing its use but lost in this discussion, is the fact that MWD stored 1.3 MAF of water in Lake Mead as Intentionally Created Surplus (ICS). He inquired about how much ICS MWD would receive by the end of 2022. Mr. Peterson responded that it is dependent on its allocation from the State Water Project (SWP), noting that MWD is working on facilities to bring more water to SWP dependent areas within the service area. Mr. Peterson stated that the SWP dependent areas reduced its water use by 75%. Mr. Aaron Mead, an engineer with MWD, stated that 115,000 AF of ICS water will be delivered by the end of the year, although 144,000 was forecasted to be needed at the beginning of 2022.

Mr. Peterson noted that the week that the Santa Ana pipeline was shutdown, MWD received health and safety water from the SWP for the impacted areas.

August 24-Month Study

Mr. Juricich provided an update on results of the August 24 Month-Study published by the Bureau of Reclamation (Reclamation) on August 16. Pursuant to the 2007 Interim Guidelines, the August 2022 24-Month Study projections for January 1, 2023, system storage and reservoir water surface elevations are utilized in determining the operational tiers for the coordinated operations of Lakes Powell and Mead during 2023. The August 2022 24-Month Study also sets operational targets for Lake Mead operations pursuant to the Lower Basin Drought Contingency Plan (DCP) Agreement and Minute No. 323.

The Study projects Lake Powell's January 1, 2023, elevation to be 3,505.66 feet based on an 8.23 MAF Lake Powell Release. Lake Powell's operations in WY-2023 will be governed by the Lower Elevation Balancing Tier with an initial projected water year release volume of 7.00 MAF. In April 2023, Reclamation will evaluate hydrologic conditions to determine if balancing releases may be appropriate under the conditions established in the 2007 Interim Guidelines. Because the 2022 operations were designed to protect critical elevations at Lake Powell, Reclamation will implement Lower Elevation Balancing Tier operations in a manner that continues to protect these critical elevations or preserves the benefits of the 2022 operations to protect Lake Powell, in water year 2023. Specifically, Reclamation modeled operations in WY-2023 as follows in the August 24-Month Study:

- The Glen Canyon Dam annual release has initially been set to 7.00 MAF;
- Balancing releases will be limited (with a minimum of 7.00 MAF) to protect Lake Powell from declining below elevation 3,525 feet at the end of December 2023;
- Balancing releases will take into account operational neutrality of the 0.480 MAF that was retained in Lake Powell under the May 2022 action. Any Lake Powell balancing release volume will be calculated as if the 0.480 MAF had been delivered to Lake Mead in WY-2022; and
- The modeling approach for WY-2023 will apply to 2024.

The August 2022 24-Month Study projects the January 1, 2023, Lake Mead elevation, determined as if the 0.480 MAF had been delivered to Lake Mead in water year 2022, to be 1,047.61 feet. Consistent with Section 2.D.1 of the Interim Guidelines, a Shortage Condition consistent with Section 2.D.1.b will govern the operation of Lake Mead for calendar year 2023.

In addition, Section III.B of Exhibit 1 to the Lower Basin DCP Agreement will govern the operation of Lake Mead for CY- 2023. Arizona and Nevada will implement 617 KAF in water savings in CY-2023 under the 2007 Interim Guidelines and Lower Basin Drought Contingency Plan. California is not required to implement water savings actions under the Guidelines or DCP in 2023. Mexico will implement 104 kaf of water savings under Minute 323 Delivery Reductions and the Binational Water Scarcity Contingency Plan. The 24-Month Study also reflects agreements in place under the 500+ Plan Memorandum of Understanding between entities in the states of Arizona, Nevada, and California signed on December 15, 2021.

RECLAMATION AUGUST 16TH PRESS RELEASE

Mr. Harris described Reclamation's August 16th announcement regarding the initiation of a number of administrative actions to protect the system reservoirs. These actions include:

- Authorize GCD releases less than 7.00 MAF;
- Accelerate maintenance and studies at GCD related to extended use of bypass tubes;
- Support studies to determine if physical modifications are feasible at GCD and Hoover Dam to release water below dead pool;
- Continue to work with Upper Basin and Tribes to implement additional DROA releases;
- Consider other operational actions to establish flexibility in Reclamation's operations in the Upper and Lower Basins;
- Further define reservoir operations at Lake Mead including shortage operations below 1,025 feet;
- Prioritize and prepare additional administrative initiatives ensuring the maximum efficient and beneficial urban and agricultural water use, and address evaporation, seepage, and other system losses in the Lower Basin; and
- Invest in system conservation and other voluntary conservation in both basins.

Board member Madaffer asked what the time frame was for implementing the proposed actions. Mr. Harris stated they would be done by the end of 2024, and the goal was to keep Lake Powell above 3,490-foot elevation.

Ms. Neuwerth described some of the efforts planned to make use of the by-pass tubes. Member Madaffer asked when was the last time the by-pass tubes were used. Ms. Neuwerth responded that they are used regularly for the high flow experiments.

Mr. Nelson asked about the flexibility regarding deliveries to Mexico. Mr. Harris stated that if there were deficiencies in supply to water users in the United States, Mexico would likely bear roughly the same proportional deficiency in supply.

Mr. Nelson asked what authorities Reclamation has to reduce deliveries to Mexico. Mr. Harris responded that the Secretary of the Department of the Interior's authority is limited. The Department of State in consultation with DOI would make the decisions.

Mr. Nelson asked how extraordinary drought was defined in relation to Mexico deliveries. Mr. Harris responded that the term was not clearly defined.

Regarding the 2007 Guidelines, Mr. Nelson stated that we really don't know what the Secretary might do when Lake Mead falls to 1,025 foot elevation. Mr. Harris stated he hopes there is opportunity for some dialogue with Interior on how to address the low reservoir conditions.

Mr. Fisher asked what authorities the Department of Interior has to reduce delivers from Glen Canyon Dam. Mr. Harris responded that we need to determine what authorities Interior has to reduce releases below what is stated in the Guidelines, and that he hopes Interior will work collaboratively with the states to address to drought conditions.

Mr. Madaffer stated that there is a lot of pontification about what to do on the river, but not much action. Mr. Harris stated that it is an indication of the failure in reaching a collaborative agreement on further reductions in water uses basinwide. Interior is hoping that with appropriate levels of funding, they can stimulate or incentivize additional water conservation to help bolster and protect critical elevations in the two reservoirs.

Mr. Madaffer stated that California agencies have proven over a long time that they can conserve water. Other states should look to what California is doing for guidance. Mr. Harris responded that we continue to elevate and highlight all of the work that California has done since the late 1980s in getting our house in order, getting our uses down below 4.4.

Mr. Madaffer stated that it is important for the Board to show its support for agriculture, and that the water transfers conducted in California have been a success, and a model for others to follow.

Mr. Fischer stated that leading up to the DCP there was significant differences between Lower Basin states, and Arizona and Nevada were attacking California. It took about a year, and they finally said, well, can we reengage. And we did. We did a successful DCP negotiation.

EXECUTIVE SESSION

Pursuant to provisions of Article 9, commencing with Section 11120, of Chapter 1 of Part 1, Division 3 of Title 2 of the government Section Program 12516 and 12519 of the Water Code to discuss matters concerning interstate negotiations with representatives from other states or the federal government, a motion was made by Mr. Fisher to go into Executive Session, seconded by Mr. Madaffer. The motion was unanimously approved. The Board entered Executive Session at 10:58 a.m. and adjourned from executive session at 11:43 a.m.

REGULAR SESSION

The Board resumed the regular session at 11:44 a.m. and Chairman Nelson reported that the Board held an Executive Session to discuss interstate and intrastate issues regarding Colorado River issues and no action was taken.

Board member Jones remarked that CRB board members should review Reclamation's M&I Shortage Policy. She noted that Reclamation has invoked the policy in other areas, and it is used as an adaptive policy.

Colorado River Basin Salinity Control Program Implementation

Colorado River Basin Salinity Control Forum Work Group Meeting

Mr. Juricich noted that the Colorado River Salinity Control Work Group meeting is scheduled for September 19-21 in Santa Fe, New Mexico. The Work Group will hear about the effect of drought on hydropower generation at Hoover, Davis, and Parker dams; program benefits; a proposal for covering habitat replacement requirements associated with new salinity control projects; new studies, investigations, and research; and program funding.

Paradox Valley Unit

Mr. Juricich provided an update on the status of the Paradox Valley Unit (PVU) operations. Reclamation restarted injection of brine at PVU as part of a six-month test injection plan on June 1st, 2022. PVU has not operated since March 2019 in response to a significant seismic event. When fully operational, the PVU removed about 100,000 tons of salt per year that would have otherwise entered the Colorado River. Under the test injection plan, PVU is injecting brine at a

rate of 115 gallons per minute, equivalent to approximately 5,500 tons of salt control per month (about 66% of the most recent injection capacity). Three months into the test there have been no significant operational issues or seismic events.

Status of the Glen Canyon Dam Adaptive Management Program

Ms. Rapoport reported that the Adaptive Management Work Group (AMWG) of the Glen Canyon Dam Adaptive Management (GCDAMP) met virtually on August 17.

Ms. Rapoport reported that more non-native fish are passing through Glen Canyon Dam than in previous years. Non-native fish being identified below the dam include smallmouth bass, bluegill sunfish, and green sunfish.

Mr. Rapoport reported that response actions to the non-native fish passage through the dam are being contemplated. The non-native fish currently of highest concern is smallmouth bass as they eat the humpback chub, which is an endangered species below the dam. Reclamation is in the process of completing a report on long-term options to prevent passage through the dam, including actions such as a net above the dam or bubblers on the hydropower outlets. The report should be available in about a month.

Ms. Rapoport reported that the Grand Canyon Monitoring and Research Center has also been evaluating the potential for short term experiments to control temperature and flow below the dam to make the habitat less hospitable for non-native fish below the dam. As a more immediate action, the National Park Service is planning to do a chemical treatment in the slough this weekend to try and wipe out the small mouth bass that are there to prevent them from getting flushed downstream.

Ms. Rapoport reported that the program is in the period to consider whether or not to conduct a high flow experiment (HFE) to flush the sediment that has come in over the past few months downstream to rebuild sandbars. There is likely sufficient sediment this year, impacts to other resources are being evaluated.

Mr. Harris asked if an HFE can be fit in volumetrically. Ms. Neuwerth replied that it would be smaller with a maximum capacity of 45,000 CFS. Mr. Harris followed up with an inquiry to confirm the experiment would not mobilize much sediment. Ms. Neuwerth confirmed this was the case. Ms. Rapoport added that the reduced sediment mobility is the issue with a smaller experiment. In order for a flow experiment to be effective, a good slug of water to be released.

The GCDAMP has received criticism from the recreational users and tribes for not having conducted a high flow experiment for some time. Mr. Harris asked if the upper basin states have been critical as well. Ms. Rapoport responded that the upper basin states and the states in general tend to be concerned about the hydropower effects and their costs are going up to run these experiments.

Finally, the Technical Work Group is scheduled to meet October 12th and 13th virtually.

GENERAL ANNOUNCEMENTS

2023 Colorado River Annual Operating Plan

Mr. Harris reported that on September 7th, Reclamation held the third 2023 Colorado River Basin Annual Operating Plan (AOP) consultation meeting which was based on the August 2022 24-Month Study report. He noted that a fourth AOP consultation is scheduled for October 12th and will provide additional clarification on the Drought Response Operation Agreement (DROA) releases in the Upper Colorado River Basin. Mr. Harris noted there are still questions regarding how DROA releases will be characterized in the in the 2023 AOP.

5-Year Operation Study

Mr. Harris reported that on August 31st, Reclamation published results of the August 2022 Colorado River Mid-term Modeling System (CRMMS) two-and-five-year probabilistic projections. CRMMS employed the Ensemble Mode which uses an ensemble of thirty unregulated streamflow forecasts developed by the National Weather Service Colorado Basin River Forecasting Center (CBRFC) using the Ensemble Streamflow Prediction (ESP) forecast for 1991-2020. Mr. Harris reported that the forecast shows a higher probability Lake Mead's elevation will either be mid-elevation of lower elevation balancing tier over the next five years.

Federal Register Notice for Public Input on Federal Meteorological Service

Board member Jones reported that the National Oceanic and Atmospheric Administration (NOAA) has released a federal registered notice asking for essentially research priorities related to weather forecasting. She stated that DWR will be submitting a letter of support of NOAA's efforts and will contribute to the Six Agency Committee's letter of support.

Washington, DC Updates

Water Recycling Projects Selected

Mr. Harris reported that Reclamation announced $310 million in infrastructure funding for water recycling projects in the western states, primarily in California. He stated that the selected projects will advance drought resilience and are expected to increase capacity by 213,000 AF of water a year.

ADJOURNMENT

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 11:57 a.m.