

November 10, 2020

TECHNICAL MEMORANDUM

TO: Malcolm Wilson, U.S. Bureau of Reclamation, Upper Colorado Basin
Carly Jerla, U.S. Bureau of Reclamation, Lower Colorado Basin

FROM: Rich Juricich, P.E., Principal Engineer, Colorado River Board of California

RE: Comments on Reclamation's Final Review Draft "Review of the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead" (7.D. Effectiveness Review Report)

Staff of the Colorado River Board of California (Board) appreciate the opportunity to provide comments on the U.S. Bureau of Reclamation's (Reclamation) Draft Report, *Review of the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*, also known as the 7D Effectiveness Review. Generally, the final review draft report does a good job of capturing many of the comments provided on the initial outline that Reclamation shared with stakeholders. Specifically, the draft report included additional information as recommended associated with the four operational elements in Section 3, and complementary activities in Section 4. The draft report also provides a more thorough description of the intentions and parameters regarding the scope of Reclamation's assessment and effectiveness review of the 2007 Interim Guidelines pursuant to Section XI.G.7.D of the 2007 Record of Decision. The Board provides the following specific comments on the draft report.

Section 7

Section 7 of the draft report includes a number of specific examples of the effectiveness of the Guidelines. The Board suggests incorporating these examples into the narrative discussion of the effectiveness in Section 8. For example, the volume of water conserved by the Lower Basin and stored in Lake Mead is a direct quantitative measurement of the effectiveness of the Guidelines and should be highlighted.

Section 7.1, page 14, first sentence lists the factors influencing Lake Powell and Lake Mead conditions, but inexplicably still does not include Upper Basin demands and the delivery obligation to Mexico. Both of these factors influence conditions in both reservoirs and should be highlighted.

Section 7.3.1.1, page 2, second paragraph states the physical limitations on Glen Canyon Dam that prevented releasing the full equalization volume and that the Guidelines did not provide explicit guidance for this circumstance. This statement should be clarified to say the limitation is associated with releases and the power plant capacity.

Section 7.3.1.2 - page 23, fourth paragraph, states the Lower Basin water use averaged 8.53 MAF from 2015 to 2019. This should be clarified to say that this refers to water use by Lower Basin states and Mexico. Water use by Mexico is separate and distinct from Lower Basin water use under the Law of the River. In fact, for the period 2011-2019, the Lower Basin water uses averaged 7.23 MAFY, which also likely speaks to the overall “effectiveness” of the Guidelines.

Section 7.5.1.2., page 31, second paragraph, while it is discussed later in Section 7.6.4.2, on page 39, it is suggested that the calendar year (CY) 2017 situation with the modification of the Metropolitan Water District of Southern California’s (MWD) ICS creation plan should also be addressed and cross-referenced here.

Section 7.6.4.2., page 39, similar to the comment above, this section should reach back with a cross reference to Section 7.5.1.2. and reference the CY-2017 ICS creation plan modification by MWD.

Section 8

Section 8 provides a high-level summary of the effectiveness of the 2007 Guidelines. The Board recommends adding specific examples of the effectiveness from Section 7 of the draft report to strengthen the case being made in Section 8. The examples below provide specific assessments of effectiveness from Section 7 that would greatly strengthen the findings in Section 8.

- Conservation activities since the implementation of the Guidelines have resulted in nearly 3.2 MAF of water savings and has led to the elevation of Lake Mead being approximately 35 feet higher than it may otherwise have been at the end of 2019. (Section 7.1). Additionally, because of the framework provided by the Guidelines, additional complementary activities also led to conservation and retention of an additional 1.5 MAF of water supplies stored in Lake Mead to the overall benefit of the System.
- Figures 3 and 4 demonstrate that the observed elevations for Lake Powell and Lake Mead are clearly within the range of what was projected during the development of the Guidelines. (Section 7.1).
- The prevalence of the Upper Elevation Balancing Tier determinations was due, in part, to the fact that it is a relatively large tier and provisions related to the Upper Elevation Balancing and Equalization Tiers have effect of putting Lake Powell in this elevation range by the end of each WY.(Section 7.3.1.2); and was also the likely result of assumptions utilized regarding Upper Basin water demands.

- April mid-year adjustments occurred in 7 out of 10 years. In practice, April adjustments have occurred (or not occurred) because of large differences between hydrologic forecasts and observed conditions in the reservoir system.(Section 7.3.1.2).
- A Lake Powell release of 9.0 MAF combined with Lower Basin water use had the effect essentially stabilizing Lake Mead’s elevation, varying only 5 feet until the end of 2019. The result was that each April, Lake Mead was projected to drop below 1,075 feet by the end-of-water-year (EOWY) assuming an 8.23 MAF release from Lake Powell, thus triggering an April adjustment to a balancing release of 9.0 MAF for the Water-Year (WY). (Section 7.3.1.2).
- 2014 was the only year that Lake Powell operated in the Mid-Elevation Release Tier. (Section 7.3.1.3).
- Lake Powell was not operated in the Lower Elevation Balancing Tier during the term of the Guidelines covered in this review. (Section 7.3.1.4).
- Releases from Lake Powell above 8.23 MAF were not significantly more common in observations than the modeled projections. (Section 7.3.2).
- For each year 2008 through 2019, Lake Mead was operated in a Normal Condition/ICS Surplus Condition. (Section 7.4.1.1).
- Between 2008 and 2019, there were no Surplus Condition determinations in the Lower Basin (Section 7.4.1.2).
- In no years between 2008 and 2019 was there a Shortage Condition determination. (Section 7.4.1.3).
- Fixed elevations and volumes have improved Reclamation’s and stakeholders’ ability to clearly identify and communicate to the public what operating conditions will likely be in place in the upcoming calendar and water year, as well as the evolution of the ability to more closely monitor the risks associated with falling below critical elevations in both Lakes Mead and Powell. (Section 7.4.1.3).
- The continuation of the “Millennium” drought since 2008 revealed that the shortage elevations and volumes specified in the Guidelines may not have been sufficient to minimize the risk of Lake Mead falling to, or below, critical elevations. Thus, providing the incentivization for the additional effort expended on the drought contingency planning efforts. (Section 7.4.1.3).
- The ICS provisions set forth in the Guidelines established the framework necessary to provide incentives for a Contractor to take additional actions to conserve and/or import water. (Section 7.5).
- Through 2019, nearly 3.2 MAF of ICS were created. Conservation generated included Extraordinary Conservation ICS (approximately 2.1 MAF) and System Efficiency ICS (approximately 0.630 MAF), with the remaining conservation generated as Tributary Conservation, Imported and Binational ICS. (Section 7.5).
- The ICS program has provided some entitlement holders with additional operational flexibilities. Through 2019, Contractors have applied approximately 21 KAF of ICS to pay

back an existing overrun, offset a potential overrun, or to backfill a shortfall within California's annual transfer obligations under the Quantification Settlement Agreement. (Section 7.5).

- Through 2019, approximately 0.551 MAF of ICS have been delivered. (Section 7.5).
- Building on the programs that were initiated by adoption of the Guidelines and the demonstrated success of the ICS mechanism, additional activities and programs were developed and implemented throughout the Lower Division States and with Mexico to incentivize water conservation. (Section 7.5.2).
- Despite increased ICS capacity and flexibility provided by the DCP, projections suggest that Arizona and Nevada may reach their accumulation limits by the end of 2021, and that California may reach its limit by the end of 2022. (Section 7.5.2).
- As part of the Guidelines the Basin States have agreed to mandatory consultation provisions to address future controversies on the Colorado River through consultation and negotiation, as a requirement before resorting to litigation. (Section 7.6).

Appendix A

Section A.2.2.2., footnote no. 7, page A-3, as a side-note, can you provide additional clarification or information regarding the "irrigated acreage" that is referred to in this footnote? Is that data/information available, and is it available on a state-by-state basis?

Again, the Board appreciates the opportunity to review the draft 7D Effectiveness Review report. Please feel free to contact Rich Juricich at 818-500-1625, or via electronic mail at rjuricich@crb.ca.gov if you require additional information.