



Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
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APR 26 2007

CERTIFIED MAIL REQUESTED

Regional Director
Bureau of Reclamation
Lower Colorado Regional Office
P.O. Box 61470
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Dear Regional Director:

On February 28, 2007, the Bureau of Reclamation (Reclamation) published the Draft Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (Draft EIS) and requested that comments on the Draft EIS be submitted no later than April 30, 2007. The Desert Southwest Region of the Western Area Power Administration (Western) would like to take this opportunity to provide comments in regard to the Draft EIS.

Western has the responsibility for the marketing of the generation from Federal hydropower in much of the Western United States, including generation on the Colorado River. The Desert Southwest Region has responsibility for projects on the Lower Colorado River including the Boulder Canyon (Hoover generation) and Parker-Davis Projects. Western has followed the development of the Draft EIS with great interest because of the potential impacts to our power customers for these projects. The power and benefits provided from these projects are currently distributed to millions of customers in Arizona, California, and Nevada. Due to the unique characteristics of hydropower generation, the Federal generation facilities on the Colorado River contribute greatly to the reliability of the entire interconnected electrical power system in the Southwest.

While our responsibility is for the marketing of federal hydropower, we recognize that Reclamation must manage the Colorado River, consistent with applicable federal laws, for all the affected resources including water supply, power, recreation, and environmental. Western's comments are therefore provided with consideration of all affected resources and are focused on issues that significantly affect the projected impacts of the alternatives analyzed and on the selection of a preferred alternative.

Comparison of Alternatives (by Operational Elements)

Reclamation has stated that it may combine aspects of more than one alternative in its preferred alternative, therefore we will provide comments on each of the Operational Elements presented in the Matrix of Alternative in Table 2.7-1.

Shortage Guidelines

The efficacy of the shortage guidelines for the alternatives may be demonstrated to a large extent by the Lake Powell and Lake Mead elevation projections by the end of the interim guideline period. The 50th percentile projection for lake elevations in 2026 show that for three (Basin States, Conservation Before Shortage, and Water Supply) of the four action alternatives, the total combined storage of the lakes are essentially unchanged or even lower than the initial storage at the start of the study period and less than No Action. This is even with inflow projections that we believe are overestimated as discussed in our comments on Modeling and Hydrologic Resources. Only under the Reservoir Storage alternative is a substantial increase in the total combined storage projected in 2026 at the 50th percentile, due primarily to the shortage guidelines for this alternative. Water storage at the 10th percentile is also much higher for the Reservoir Storage alternative.

It seems that shortage guidelines that do not show an appreciable increase in water storage in almost 20 years (even with overly optimistic inflow projections) from relatively low levels reached after a 7-year drought are inadequate. This would leave the reservoirs languishing in the middle to lower range of storage during normal inflows and thus without sufficient storage to handle significant drought periods without drastic cuts in water deliveries. The proposal under the Basin States alternative for a re-consultation once Lake Mead drops below elevation 1025' appears contrary to the purpose of having shortage guidelines. We believe that shortage guidelines that do not address shortages at lower lake elevations do not fulfill the need set forth in Purpose and Need "for more specific guidelines ...to assist in the Secretary's determination of annual water supply conditions in the Lower Basin under low reservoir conditions." Specific guidelines would be absent at the lowest reservoir elevations at which they are most critical.

The shortage guidelines under the Reservoir Storage alternative result in much higher water storage under the full range of probabilities. This would result in much better capability to meet water demands during periods of drought which is a primary purpose for developing these interim guidelines. In addition, other purposes for which these dams were built such as power production and recreation will also benefit from these higher storage levels. We find the shortage guidelines under the Reservoir Stage alternative are superior and recommend that they be incorporated into the preferred alternative.

Coordinated Reservoir Operations

Coordinated releases from Lake Powell based upon the elevations or volumes at Lake Mead and Lake Powell at lower elevations provides an overall benefit to the system resources. We do not believe that there is an appreciable difference in the impacts based upon the triggers used in the Basin States and Conservation Before Shortage alternatives versus the Reservoir Storage triggers. We recommend either the Coordinated Reservoir Operations from the Basin States and Conservation Before Shortage alternatives or the Reservoir Storage alternative be implemented.

Storage and Delivery of Conserved System or Non-System Water

We support the concept of Intentionally Created Surplus (ICS) mechanism for storage and delivery of conserved water. The increase storage in Lake Mead resulting from the ICS would provide positive impacts to many of the affected resources including power production. We support the higher maximum levels of ICS in the Reservoir Storage alternative.

We strenuously oppose the proposal in the Conservation Before Shortage alternative that would be funded in part by a surcharge assessed on the power rates for the Hoover electrical service contractors and a Federal government contribution. As noted in the Draft EIS, this funding proposal would be contrary to existing federal legislation and outside of the authority of Reclamation.

Interim Surplus Guidelines (ISG)

We feel that it is counterproductive to provide for surplus deliveries not necessitated by the potential of flood control releases when we are entering a period of time where the probability of shortages is greatly increasing. While eliminating the Domestic Surplus provisions of the ISG would only have a small effect on water storage, we still believe that this justifies elimination of these surpluses. We support the Reservoir Storage proposal to eliminate the ISG Domestic Surplus releases and make surplus releases only during Quantified and Flood Control conditions.

Environmental Consequences

Methodology and Hydrologic Resources

The first two stated purposes of the Draft EIS are to: 1) improve management of the Colorado River considering the tradeoffs between the frequency and magnitude of reductions of water deliveries and the effects on water storage, water supply, power production, recreation, and environmental resources; 2) provide Colorado River water users with a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions. The most critical factor affecting the analysis of the alternatives in regards to these purposes is the water supply model. The reductions in water deliveries and uncertainty in water deliveries are issues only as the reservoirs reach low levels due to water deliveries that exceed the water supply over a period of years.

In the Draft EIS, Reclamation modeled the future inflows to the Colorado River Basin using 99 years of recorded data from 1906 through 2004 (Direct Natural Flow Record) and applying these years of inflows (or traces) and the projected initial conditions to models of the alternatives. The use of historical recorded inflows for projection of future inflows has been used by Reclamation in previous environmental impact studies and other analysis, however we believe that it is very ill suited for the current Draft EIS.

As noted above, the primary purpose of the Draft EIS is to determine guidelines for operating at low reservoir levels. We feel the use of this 99 year historical record of inflow data significantly

overstates the probable future inflows and therefore calls into question the validity of the analysis of the alternatives. There are two factors that cause us to believe this use of recorded data would overstate the probable future flows. First, the historical period includes the early 20th century, a time of extraordinarily high inflows. All reconstructions of earlier inflows (through tree ring analysis) have determined this to be the period of highest sustained inflows in the past 500 years. By including and not adjusting for these abnormally high inflows results in an over-projection of the probable inflows based on the full picture of historical inflows. Comprehensive analysis of tree rings in the Colorado River Basin have shown average inflows over the past 500 years are 0.5 MAF to over 1.0 MAF less than the average inflows used in the Draft EIS. There is a sensitivity analysis in Appendix A which did include one analysis (Direct Paleo) which used such reconstructed water inflow data. The result was that at the 10th percentile in 2026, Lake Powell elevation was about 50 feet lower for most alternatives and Lake Mead was about 20 feet lower for the action alternatives when compared to the Direct Natural Flow Record used in the body of the Draft EIS.

The second factor is the effects of climate change on the future inflows. There is almost complete consensus in the scientific community in regards to increasing temperatures in the Colorado River Basin as evidenced by the National Research Council report earlier this year. Average temperatures in the Colorado River Basin have already increased over the last century and higher average temperatures in the future will result in increased evaporative losses and earlier snowmelts, reducing the future inflow. We have experienced this situation several years in the current drought, where precipitation and snowpack levels were near average until about March at which time warm, dry conditions ensued and resulted in runoff levels far below average.

In addition, the current state of hydrologic conditions has changed substantially since the August 2006 data used in the analysis. Due to another poor snowpack in the Colorado River Basin, the inflow for the current year will be far below the previous projections. This change would significantly reduce the initial reservoir levels used in the Draft EIS.

In summary, we do not believe that the water supply model in the Draft EIS accurately portrays the probabilities of future conditions due to overestimation of inflows and initial reservoir conditions. It does not seem reasonable to us to analyze alternatives for creating guidelines to address primarily the river operation during drought and low reservoir conditions using data that would likely overestimate the available water supply. We suggest that the alternatives should be re-analyzed using more conservative projected water inflows that would result from incorporation of the information from recent scientific studies in this area, not solely the recycling the limited period of recorded inflows.

Water Deliveries

Figure 4.4-6 demonstrates the impact on future deliveries that will likely occur because of inadequate reductions of deliveries under all alternatives except for Reservoir Storage. Very large shortages may be required immediately after the interim period in all the other alternatives when the demands for water are only going to be greater. There does appear to be discrepancies

between Figure 4.4-6 and Table 4.4-10. The data points in the table do not match the corresponding data points in the figure.

Electrical Power Resources

The analysis in the Draft EIS presents a comparison of the impacts on power generation on an average basis and at various ranges of hydrologic conditions. The total economic values of the electrical power generation presented are greatly understated due to use of outdated (2004) data for the underlying prices and application of a net discount rate that reduced the value of generation in later years. The comparison of impacts for each of the alternatives appears reasonable in terms of the change in electrical power production. This comparison shows that Hoover is the most impacted of the Federal generation facilities. The Reservoir Storage alternative provides for significantly higher power production at Hoover than the others alternatives as well as higher overall power production from the Colorado River generation facilities in total.

Recreation

We would just note that the Reservoir Storage clearly is the most beneficial alternative in terms of recreation at both Lake Powell and Lake Mead. Each of the other alternatives has a negative impact on Lake Powell recreation compared to No Action.

Recommendation

In our review of the Draft EIS, we find that each of the alternatives, except Reservoir Storage, do not provide for adequate water storage on the Colorado River and therefore have negative impacts on resources, such as power and recreation, and leave future water deliveries vulnerable. We believe these alternatives are likely to result in drastic reductions in water deliveries during or immediately after the interim period and/or result in the need to reconsider or modify the guidelines during the interim period. Therefore, Western recommends that Reclamation selects Reservoir Storage as the preferred alternative in the Final Environmental Impact Statement based upon its most favorable impact to the resources and environment effected by the adoption of interim guidelines.

We thank you for this opportunity to comment on the Draft EIS. For any questions on this matter, please contact Mr. Brian Young at (602) 605-2594 or byoung@wapa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Mary Oretta" with "for" written below it.

Deborah K. Emler
Assistant Regional Manager
for Federal Power Programs

bcc:

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