

Mrs. Lorri Gray – Lee
August 6, 2009
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- 6 Central Arizona Project (CAP). The supply will be allocated to CAP contractors and sub-contractors pursuant to existing agreements.
- 7 The Total Water Supply Available for Fourth Priority Diversion amount is based on estimated priority 1-3 water use. Actual use may be higher than estimated, and could result in an inadvertent CAP overrun. The CAP has agreed to be responsible for payback, under the Inadvertent Overrun and Payback Policy, up to the amount of the water user's entitlement. Actual use may be lower than estimated, resulting in an increased water supply for CAP.

By this letter I am formally notifying Reclamation that this is the method Arizona intends to use in the event that shortage reductions are required. I would request if you chose to implement a delivery schedule that does not follow this method, you confer with Arizona prior to implementing such a schedule.

Thank you for your consideration.



Herbert R. Guenther
Director

Cc: Arizona Water Banking Authority members:
Maureen George
Tom Buschatzke
John Mawhinney
Lisa A. Atkins

Kim Mitchell, AWBA Manager
Gregg Houtz, ADWR Deputy Counsel

Arizona Shortage Sharing Process
and Recommendation to the Director
August 6, 2009

Starting in 2000, the Colorado River began experiencing the worst drought conditions in approximately one hundred years of recorded history. The Department of the Interior (Department) did not have specific operational guidelines in place to address the operations of Lake Powell and Lake Mead during drought and low reservoir conditions. Accordingly, the Secretary of the Department of the Interior (Secretary), acting through the Bureau of Reclamation (Reclamation), proposed adoption of specific Colorado River Lower Basin (Lower Basin) shortage guidelines and coordinated reservoir management strategies to address operations of Lake Powell and Lake Mead, particularly under drought and low reservoir conditions. It was the Secretary's intention to provide a greater degree of certainty to United States Colorado River water users and managers of the Colorado River Basin by providing detailed, and objective guidelines for the operations of Lake Powell and Lake Mead, thereby allowing water users in the Lower Basin to know when, and by how much, water deliveries will be reduced in drought and other low reservoir conditions.

In 2004, the Governor's representatives for the seven Basin States at the urging of the Secretary, began meeting with Reclamation and other federal representatives to discuss the critical water storage conditions at Lakes Powell and Mead, and possible operational changes that could be implemented to better manage the water supply. Based on these discussions the States agreed with the Secretary that specific shortage criteria for the Lower Basin needed to be developed and adopted by the Secretary. Technical staff of both the Basin States and Reclamation began meeting to develop appropriate operational guidelines.

In July 2005, Reclamation initiated a public process to obtain stakeholder input regarding the content, format, mechanisms and analysis needed to develop management strategies for the operation of Powell and Mead under low reservoir storage conditions, including the development of shortage criteria. In response to this effort, the Director of the Arizona Department of Water Resources initiated an Arizona Shortage Sharing Stakeholder Workgroup (Workgroup) process in July 2005.

The Workgroup process had two goals: 1) develop a recommendation to the Director regarding the appropriate volume and implementation strategy for implementing Lower Basin shortages, and 2) develop a recommendation to the Director regarding how shortages should be shared in Arizona between CAP and other post-1968 Colorado River water users. In September 2005, the Workgroup issued a Preliminary Recommendation to the Director. The Director took this recommendation to the other Colorado River Basin States. The Preliminary Recommendation regarding the proposed shortage volume and implementation strategy (Goal 1) was adopted with minor modification into the *Seven Basin States' Preliminary Proposal Regarding Colorado River Interim Operations, February 3, 2006*. The Preliminary Recommendation was submitted to Reclamation and was evaluated as part of Reclamation's environmental compliance process. The

Preliminary Recommendation was silent with regards to Goal 2 recommendations on how shortage should be shared among post-1968 Arizona Colorado River water users.

The ADWR Director's Shortage Sharing Workgroup continued to work on Goal 2 and issued a Final (Revised) Recommendation to the Director on October 24, 2006. ADWR staff worked with Reclamation to incorporate the Final Recommendation into the modeling efforts used to compare the no action alternative to the action alternatives, however, the actual Recommendation was not specifically addressed in the Final EIS.

The model was changed to show a redistribution of shortages to Arizona fourth priority users in accordance with the Final Recommendation. The Final Recommendation provides that the fourth priority mainstream shortage water supply be calculated by determining the percentage derived by dividing the total fourth priority mainstream diversion entitlement by the available fourth priority consumptive use water supply for the mainstream and the CAP in the last non-shortage year. Then multiply this percentage by the quantity of fourth priority water available in the shortage year. The remaining fourth priority water supply, after the mainstream water deliveries for the shortage year are subtracted, would be available for diversion by the CAP.

The Final EIS was published in October 2007 followed by a Record of Decision signed in December 2007.

In addition to the two primary goals of the Workgroup's efforts, the Final Recommendation included an additional recommendation, creation of a shortage revolving fund for fourth priority, mainstream municipal and industrial water users. The revolving fund would operate to earmark or reserve AWBA credits in the name of the entity that used and then replaced the credits, creating a type of revolving fund. The Director forwarded the revolving fund recommendation to AWBA staff with a request to further investigate the need, and legal basis for creating the proposed revolving fund. Based on the recommendation forwarded by the Director, the AWBA approved Resolution 2008-1 in March 2008 which resolved to create a separate replacement account and make the credits in that account available to entities that had reimbursed the AWBA for credits previously used by those entities. The Resolution also allows the opportunity for any fourth priority mainstream entitlement holder to contract with the AWBA for firming.

The modeling completed at the time the AWBA was authorized estimated that approximately 420,000 acre-feet of water would be needed to offset the expected shortage reductions to mainstream water users through the year 2108. Based on that initial estimate, the AWBA entered into the Agreement to Firm Future Supplies (Agreement to Firm) with Mohave County Water Authority (MCWA). The Agreement to Firm has set aside approximately 397,000 acre-feet of credits developed with general fund monies for the benefit of mainstream water users. In November 2008, ADWR updated the modeling of estimated shortage water needs for fourth priority, mainstream water users using the new Interim Guidelines operating criteria. This update includes the new shortage criteria, and estimates that between 226,000 and 245,000 acre-feet of water

Director's Shortage Sharing Workgroup Recommendation

October 24, 2006
(Revised)
Final

In 2005, the Director established the Arizona Shortage Sharing Stakeholder Workgroup (Workgroup). The Workgroup had two specific goals:

1. Develop a recommendation to the Director regarding the appropriate volume and implementation strategy for implementing future Colorado River shortages in the lower basin.
2. Develop a recommendation to the Director for allocating shortages between the Central Arizona Project (CAP) and equivalent priority mainstream Colorado River water users.

The Workgroup effort supports a larger Bureau of Reclamation (Reclamation) Environmental Impact Analysis process to develop lower basin shortage criteria and conjunctive management strategies for the operation of Lakes Powell and Mead. Reclamation currently plans to issue a Record of Decision in December 2007.

Shortage Volume and Implementation Strategy

The Workgroup developed the following recommendation for implementing lower basin shortages:

1. At or below Lake Mead elevation 1075 feet, 400,000 acre-feet shortage
2. Below elevation 1050 feet, 500,000 acre-feet shortage
3. Below elevation 1025 to 1000 feet, 600,000 acre-feet shortage
4. Below elevation 1000 feet, reconsultation with Reclamation and the states

The recommendation assumes that the first step will be to reduce water deliveries to Mexico and the next step will be to calculate shortage sharing with Nevada. Hydrologic conditions that necessitate reductions in excess of 600,000 acre-feet will trigger a Secretarial consultation process to determine how to implement additional reductions in the least damaging and most equitable manner possible. That consultation process has not been defined, but should be developed with input from the basin states.

The Director forwarded this recommendation to the other Colorado River basin states, and it has been incorporated into the *Seven Basin States' Preliminary Proposal Regarding Colorado River Interim Operations, February 3, 2006*, with one modification, that reconsultation would be triggered at elevation 1025.

Shortage Allocation Between CAP and Fourth Priority Mainstream Entitlements

The Workgroup analyzed methods for allocating shortage reductions between CAP and fourth priority mainstream water users. The CAP has an established priority system for implementing shortage reductions. Excess water supplies are reduced first. If additional reductions are needed, non-Indian agricultural priority water supplies are reduced until gone, and finally municipal/industrial/Indian uses are reduced according to the formula in the Gila River Indian Community Water Rights Settlement

Director's Shortage Sharing Workgroup Recommendation
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Agreement. There is no equivalent shortage implementation system for fourth priority mainstream water users. Fourth priority mainstream uses (agricultural and municipal) will be reduced proportionately as soon as Arizona Colorado River shortage reductions are implemented. Future estimated shortage reductions to mainstream users including Lake Havasu and Bullhead City run as high as 30 percent. Under Reclamation's current interpretation for Article V accounting, there is no locally available, non-Colorado River water supply to offset these shortage reductions.

The Director requested that a small technical subgroup of Workgroup stakeholders begin working with the Department to develop a shortage allocation recommendation. The technical group established principals to guide a shortage allocation strategy:

1. Define a method for the Secretary to utilize when allocating shortages to Arizona users
2. Beneficiaries bear the costs of shortage protections
3. Shortages must be allocated in a reasonable manner based on existing contracts and agreements
4. To the extent possible, treat similar users groups equitably

The Mohave County Water Authority (MCWA) presented a recommendation for proportional shortage reductions to fourth priority mainstream water supplies based on entitlement. Shortage reductions to mainstream domestic water supplies could be mitigated by the Arizona Water Banking Authority. The Department completed additional technical analysis of the proposal, which was endorsed by the technical group. The technical group recommends that Arizona fourth priority shortages be allocated as follows:

1. Determine shortage amount and allocation to Mexico. Allocate the remaining shortage amount first to Nevada, and the remainder to Arizona. The enclosed spreadsheet first allocates 16.7% of the shortage to Mexico. The remaining shortage amount is then allocated 7.4% to Nevada and the remainder to Arizona.
2. Determine the estimated priority 1-3 consumptive use amount based on the last non-shortage year use. Determine the **Total Water Supply Available for Fourth Priority Diversion**. Subtract the priority 1-3 consumptive use amount from the Arizona Colorado River water allocation of 2,800,000 acre-feet.
3. Determine the **Fourth Priority Mainstream Shortage Percentage**. Divide the fourth priority mainstream diversion entitlement, 164,652 acre-feet, by the Total Water Supply Available for Fourth Priority Diversion (#2).
4. Determine the total water supply **Available for Fourth Priority Diversion after Shortage Reduction**. Subtract the Arizona portion of lower basin shortage from Total Water Supply Available for Fourth Priority Diversion amount (#2).
5. Determine the **Fourth Priority Mainstream Shortage Reduced Water Supply**. Multiply the Available for Fourth Priority Diversion after Shortage Reduction (#4) water supply by the Fourth Priority Mainstream Shortage Percentage (#3).
6. Determine the remaining, CAP water supply. The Total Water Supply Available for Fourth Priority Diversion amount is based on estimated priority 1-3 water use. Actual use may be higher than estimated, and could result in an inadvertent CAP overrun. The CAP has agreed to be responsible for payback, under the Inadvertent Overrun and Payback Policy, up to the amount of the water user's entitlement. Actual use may be lower than estimated, resulting in an increased water supply for CAP.

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Since there is a fixed maximum diversion entitlement for fourth priority mainstream water users, as noted in the *Contract Between the United States and the Central Arizona Water Conservation District for Delivery of Water and Repayment of Costs of the Central Arizona Project, December 1, 1988*, the mainstream fourth priority water supply has been calculated based on that entitlement. After determining the mainstream fourth priority water supply, the remaining water supply is available for diversion by the CAP, including any available return flow from mainstream water uses.

The shortage allocation recommendation includes the opportunity for mainstream municipal water users to firm 100 percent of their individual municipal/industrial entitlements. Based on updated population projections (2003) the AWBA would need between 450,000 and 525,000 acre-feet of credits for fourth priority mainstream municipal and industrial water users. As AWBA credits are used and replaced, the new credits will be earmarked in the name of the entity that replaced the credits, thereby creating a revolving fund. The AWBA has not foreclosed the opportunity for any fourth priority mainstream entitlement holder to contract with the AWBA for firming.

Arizona In-State Shortage Sharing

1) River Users Total Shortage

- a) River Users CU Schedules – Available River User CU = River Users Shortage
- b) Available River Users CU = Available 4P * ratio of (River Entitlements / Available 4P)
 - * Available 4P = 2.8maf - P1 to P3 use
 - * River Entitlements are fixed 164,652afy

2) River Users Distributed Shortage

- a) Available River Users CU is distributed proportionately to all River Users' entitlements.
- b) Each river user is delivered the adjusted entitlement or the scheduled use, whichever is less.
- c) For the entitlement holders who are delivered more than their scheduled use, the balance of available water flows to CAP

3) CAP's Total Shortage

- a) CAP receives the Available 4P minus the amount used by River Users

CAP (excluding 72,000af for pre-1968 CAP contracts):