

From: Kathleen Donoghue [kadonoghue@azwater.gov]
Sent: Monday, April 30, 2007 11:09 AM
To: strategies@lc.usbr.gov
Cc: astephens@az.gov; lfaeth@az.gov; Colleen Lane; Gregg Houtz; Glenda Winters; Herb Guenther; Nicole Swindle; Perri Benemelis; Tom Carr; Tim Henley; Patrick Schiffer; margaret_Bradley@IOS.DOI; jharkins@lc.usbr.gov; lwalkoviak@lc.usbr.gov; rgold@uc.usbr.gov; bjohnson@usbr.gov
Subject: State of Arizona Comments on the Draft EIS, Colorado RiverOperations

Attachments: Ltr - Kempthorne 4-27-07.pdf

Attached please find the State of Arizona, Department of Water Resources Comments regarding the Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead. The attached shall serve as the official submission for the State of Arizona pursuant to the notice published in 72 FR 9027 on February 28, 2007.

A hard copy of the letter and five Exhibits have been mailed this date by first class U.S. mail to the Honorable Dirk Kempthorne (original) and to Robert W. Johnson, Rick Gold, Jayne Harkins and Larry Walkoviak.

Director Guenther would like to thank you for the opportunity to make this submission.

If you have any problems retrieving the documents, please contact Kathy Donoghue at 602-771-8476, or by replying to this email.

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Janet Napolitano
Governor

Herbert R. Guenther
Director

April 30, 2007

Honorable Dirk Kempthorne
Secretary of the United States Department of the Interior
1849 C. Street, NW
Washington, D.C. 20240

Re: Arizona Department of Water Resources Comments Regarding the *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Dear Mr. Secretary:

The Arizona Department of Water Resources (ADWR) submits the following comments to the *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement* (February 2007). By Arizona statute, ADWR is the state agency within Arizona that is authorized and assigned the responsibility to consult, advise and confer with the Secretary of Interior regarding matters dealing with the operation of the mainstem of the Colorado River.

Arizona relies on Colorado River water for municipal and industrial use along the River and in Central Arizona; as well as for agricultural use in both areas. As you are aware, Arizona will be impacted by shortage water supply reductions more than any other Lower Basin State. There have historically been significant differences among the seven Colorado River Basin states concerning important elements of the Law of the River. Hydrological conditions on the River require that the Secretary, in consultation with the Basin states, adopt shortage guidelines. The process for adoption of such guidelines could have been the occasion for each of the Basin states to assert its legal positions—resulting in extended litigation and years of uncertainty for Colorado River water users. The seven states chose, instead, to seek agreement on shortage guidelines and guidelines for the management of Lakes Mead and Powell for an interim period of nineteen years, and to reserve their legal positions for later resolution if necessary.

Arizona worked diligently with the other Basin states to achieve agreement on the Basin States' Preliminary Proposal recommended to you on February 3, 2006. Since that time, and following the publication of the Draft EIS, Arizona has continued to work closely with the other states to refine and improve the Basin States' Preliminary Proposal and to develop one set of comments to the Draft EIS on behalf of all of the states ("Basin States' Comments"). The Basin states are submitting the Basin States' Comments, together with the Basin States' Proposal, which includes the Basin States' Agreement, Proposed Interim Guidelines for Colorado River Operations, Draft Forbearance Agreement and Arizona-Nevada Shortage Sharing Agreement ("Basin States' Proposal") under separate cover. Arizona has joined in and strongly supports the Basin States' Comments and Proposal.

Arizona submits the following additional comments to supplement and buttress the Basin States Comments and to address concerns specific to Arizona.

Supplemental Comments in Support of the Basin States' Proposal:

Reclamation Should Adopt the Basin States Alternative as the Preferred Alternative

Reclamation should adopt the Basin States Alternative because it is the compromise alternative developed by the Governor's Representatives of the seven Colorado River Basin States, and, for the reasons stated in the Basin States' Comments, it is the best of the five alternatives analyzed in the Draft EIS. The Basin States Alternative would provide more benefits to Arizona than the No Action Alternative, and is acceptable to all of the states that will be directly affected by its implementation. The Basin States Alternative addresses the issues identified during the Environmental Impact Statement (EIS) scoping process, and it can be implemented immediately upon issuance of the Record of Decision.

Each of the other four alternatives analyzed in the Draft EIS fails to adequately address the issues identified during scoping. The No Action Alternative is unacceptable for several reasons. First, it fails to address the Secretary's objectives because it does not include shortage guidelines for the Lower Basin. In addition, the No Action Alternative does not comply with existing law, as explained in Arizona's November 28, 2005 scoping letter.¹

The Water Supply Alternative reflects the traditional strategy for managing reservoir systems in the West—i.e., shortages are declared only when water is physically unavailable for delivery. The DEIS indicates that there would likely be no shortages to Arizona during the interim period under this alternative. However, there would also be less water retained in storage in Lake Powell under the Water Supply Alternative, and it lacks consensus Basin States' support.

While the analysis of the No Action and Water Supply alternatives is important because they expand the range of analyzed impacts, neither includes negotiated criteria for the coordinated operation of Lake Powell and Lake Mead, or specific guidelines for the implementation of future water supply reductions in the Lower Colorado River Basin under defined shortage conditions. Nor do these two alternatives allow for the intentional creation of surplus in Lake Mead by a Lower Colorado River Mainstream contractor and release of the surplus for use within the state that intentionally created the surplus, with the forbearance of the other Lower Division States.

With regard to the other two alternatives, substantive changes to the Law of the River would be required in order to implement either the Conservation Before Shortage (CBS) or the Reservoir Storage Alternative.

The CBS Alternative includes the intentional creation of surplus and release of the surplus from Lake Mead contained in the Basin States Alternative, but it depends upon a funding mechanism that does not currently exist. According to Reclamation, "The viability of the Conservation Before Shortage program funding proposal is not known at this time. Reclamation currently does not have the authority to implement all facets of this proposal and additional legislation would be necessary to gain such authority."² The CBS Alternative also proposes to allow Mexico to participate in an ICS program. Together with the other Basin States,

¹ See note 4, *infra*, and accompanying text.

² Draft EIS, Section 2.4.5, page 2-13.

Arizona supports the concept of Mexican participation in an ICS mechanism at some time in the future. An international framework and agreement would be a necessary prerequisite to the adoption of an ICS-type water management program for Mexico. Arizona stands ready to participate in discussions with Mexico, the U.S. federal government, and the other Basin States with regard to the development of such a framework.

Finally, the only remaining alternative, the Reservoir Storage Alternative serves a valuable purpose by allowing analysis of a broad range of impacts in the EIS, but it contains provisions that impound water for power generation and recreation to the detriment of downstream agricultural and domestic uses. This is prohibited by Article IV (b) of the Colorado River Compact (Compact) which clearly states that "Subject to the provisions of this compact, water of the Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes."

Also, the shortage criteria proposed in the Reservoir Storage Alternative doubles the maximum shortage reduction proposed in the Basin States Alternative. This is unacceptable to Arizona. The shortage criteria in the Basin States Alternative were adapted from criteria developed by the Director's Shortage Sharing Workgroup in Arizona. The Workgroup met for almost two years to develop a recommendation regarding the appropriate implementation strategy and volume of shortage reductions. This recommendation was later refined by the subsequent Arizona-Nevada Shortage-Sharing Agreement, executed on February 9, 2007 (Shortage-Sharing Agreement) between Nevada and Arizona apportioning lower basin shortages between the two states.

Mischaracterization of Intentionally Created Surplus

The Draft EIS characterizes Intentionally Created Surplus ("ICS") as a water management mechanism for storage and delivery of conserved and/or non-system water. This is not a correct description of ICS as it is used in the Basin States' Proposal. ICS is characterized in the Basin States' Proposal as a category of Surplus water under the provisions of Article II(B)(2) of the Consolidated Decree in *Arizona v. California*, just as Domestic Surplus under the Interim Surplus Guidelines is a category of Surplus water. The Basin States, CBS and Reservoir Storage Alternatives each include a provision for the development of ICS. The Consolidated Decree allocates Surplus water among Arizona (46%), California (50%) and Nevada (4%). A state may forbear its use of Surplus water, which would allow the Secretary to allocate the apportioned but unused surplus to another state pursuant to Article II(B)(6). The Draft EIS describes the creation of ICS for each of the above referenced alternatives, but fails to describe the required forbearance that would make that water available for the intended use. Reclamation should, in the Final EIS, accurately describe ICS as a category of Surplus, include a description of the forbearance necessary for the delivery of ICS to the entity that created the Surplus, and, in the Record of Decision, adopt guidelines for the creation and delivery of ICS as set forth in the Proposed Interim Guidelines contained in the Basin States' Proposal.³

³ Attached to this Arizona Comments Letter as Exhibit I is "Changes to DEIS Volume I and Appendix M to Conform to Basin States Proposal re Intentionally Created Surplus" to conform the DEIS to the Proposed Interim Guidelines contained in the Basin States' Proposal.

Comments Addressing Concerns Specific to Arizona

Default Operating Criteria After Termination of Interim Guidelines

For the most part, the Interim Guidelines that would be adopted upon adoption of a ROD consistent with the Basin States Alternative will terminate in 2026, and could, under certain circumstances, terminate prior to 2026. The Draft EIS does not clearly set forth the default operating criteria for Lakes Powell and Mead that would apply upon termination of the Interim Guidelines. Before utilizing the present 602(a) storage algorithm for calculating 602(a) storage requirements for releases from Lake Powell, the Secretary should conduct a complete review of Section 602(a) of the Colorado River Basin Project Act of 1968 in consultation with the Basin States and consider Arizona's comments concerning the validity of the use of the present 602(a) algorithm, as stated in Arizona's scoping comments submitted November 28, 2005 as a part of this NEPA process.⁴

Colorado River Compact Deliveries

Article III(d) of the Compact defines the minimum, ten-year release requirement from the Upper Basin to the Lower Basin, in addition to the releases required by Articles III (c) and (e). The Basin States Alternative describes reservoir operations to balance the contents of Lake Powell and Lake Mead, with varied Powell releases based on water surface trigger elevations for the reservoirs. Nevertheless, Arizona will continue to monitor the ten-year releases in order to evaluate compliance with Article III (d) of the Compact. Even during the proposed interim period, gauging whether the experimental interim release schedule actually causes less than 75 MAF of flow at Lee Ferry in a ten-year period will help to determine the effectiveness of the proposed guidelines. The information also might be a factor in adjusting Powell releases within the agreed range during the proposed interim period, and may demonstrate the need for adjustment of the proposed release schedule after consultation with the Basin States and the Secretary.

Shortage Criteria

The *Director's Shortage Sharing Workgroup Recommendation, October 24, 2006 (Revised) Final*,⁵ describes a method to distribute Arizona shortage reductions between the CAP and equivalent priority mainstream Colorado River water users. The assumptions regarding the distribution of shortage reductions between Arizona and Nevada have since been defined, as reflected in the Shortage-Sharing Agreement.⁶ Arizona water users will be impacted by shortage water supply reductions more than any other Lower Basin State. Reclamation should consider the Director's Shortage Sharing Workgroup Recommendation and the Shortage-Sharing Agreement with Nevada when adopting a preferred alternative.

⁴ Letter from Herbert R. Guenther to Robert W. Johnson, November 28, 2005, pp. 1-2, attached as Exhibit 2.

⁵ Attached as Exhibit 3.

⁶ The Arizona-Nevada Shortage-Sharing Agreement, February 9, 2007, is attached to the Basin States' Comments as part of the Basin States' Proposal.

Analysis of the Impact of Multiple, Consecutive-Year Colorado River Shortages in Arizona

The Draft EIS includes the following statement: “Key to the impact analysis is the assumption that the most conservative way to estimate impacts is to assume that, if a shortage occurs, farmers would react by fallowing irrigated lands.”⁷ This is an adequate approach for analyzing shortage reductions expected to last for a single year. However, we disagree with the assumption that this approach captures the expected impact for multiple, consecutive-year shortage reductions. Since fourth priority agricultural water users in Mohave County, Arizona have no reasonably available replacement water supply, a long-term shortage will likely result in the permanent loss of production for some lands. Within the CAP service area, where groundwater is available as a replacement water supply, agricultural producers will have additional costs for the rehabilitation or replacement of irrigation wells as well as additional hydropower costs to pump groundwater.

Arizona has analyzed the likelihood of multiple year Colorado River shortage reductions, using Reclamation’s data.⁸ Modeling for the No Action Alternative indicates a 44 percent probability of five or more years of consecutive shortage during the interim period (2008 through 2026) and a 95 percent probability from 2027 through 2060. Under the Basin States Alternative the probability of consecutive shortage years is less, but still significant, with a 29 percent probability of five or more years of consecutive shortage during the interim period and a 96 percent probability between 2027 and 2060. Reclamation should consider the socioeconomic and other impacts to both agricultural and municipal water users of multiple, consecutive-year shortages.

The Draft EIS further concludes that “No permanent change in land uses would occur under any of the alternatives because shortages would be of a temporary nature and agricultural lands would likely not be permanently removed from production.”⁹ Arizona disagrees with this conclusion. Under all alternatives analyzed in the Draft EIS, multiple year shortage reductions are possible. Reclamation should consider the impacts of prolonged shortage and address the impacts in the Final EIS.

Analysis of Shortage Impacts in Arizona

Fourth priority mainstream uses (agricultural and municipal) in Arizona will be reduced proportionately as soon as the first Colorado River water supply reductions are implemented. The Draft EIS does not describe the adverse impacts to fourth priority mainstream municipal Colorado River water users. Future estimated shortage reductions to mainstream users, including Lake Havasu City and Bullhead City, run as high as 30 percent of entitlement. Shortage reductions will also reduce the Cocopah Indian Tribe’s fourth priority entitlement as well as agricultural water uses in the Mohave Valley. Under Reclamation’s current interpretation of Article V accounting under the Consolidated Decree in *Arizona v. California*, there is no locally available, non-Colorado River water supply to offset these shortage reductions.

⁷ Draft EIS, Section 4.14.1.2, page 4-263.

⁸ Data taken from Reclamation’s DEIS CRSS Model Output data files NA.Short.cy.xls and BS.Short.cy.xls. ADWR analyzed the data found in these files to determine the duration of shortages. The graphed results are shown in Exhibit 4.

⁹ Draft EIS, Section 4.14.2, page 4-270.

The Draft EIS analyzes a range of shortage reductions from 200,000 acre-feet to 2,500,000 acre-feet. The impact analysis generally assumes increased impacts from increased volumes of shortage. While it is reasonable to assume that adverse impacts increase as shortage reductions increase, this approach fails to acknowledge that there has never before been a declared shortage of Colorado River water, and there will be adverse impacts to a variety of water users in Arizona when the first shortage reductions are implemented.

The Final EIS should recognize Arizona's shortage planning measures and investments over the last decade. It should also acknowledge the additional costs of demand reduction programs already in place that would be operative during shortage reductions. Arizona cities have already invested millions of dollars to develop shortage water supplies and to implement demand reduction programs. The Arizona Water Banking Authority has spent more than \$106 million to store water to supplement municipal supplies during times of shortage. Such measures should be included in the analysis of the impacts of shortage.

Conclusion

Adoption of the Basin States Alternative would initiate an opportunity for nineteen years of peace on the River. The outstanding differences among the seven basin states over various aspects of the Law of the River would be set aside for this interim period while a new, agreed method for managing the Colorado River and new shortage criteria are implemented. By the year 2020, the Secretary and the Basin States will have had enough experience with these interim procedures to allow informed and productive consultation concerning River management and shortage guidelines for the period after 2026. If an alternative other than the Basin States Alternative were to be adopted, the compromises encompassed in the Basin States' Proposal would not be preserved and differences among the states would not be deferred.

Arizona strongly recommends that the Secretary choose the Basin States Alternative as the preferred alternative in the FEIS and adopt a ROD with the guidelines and criteria necessary to implement the Basin States Alternative in substantial conformance with the carefully negotiated Basin States' Proposal.¹⁰

Sincerely,



Herbert R. Guenther

Attachments

1. Exhibit 1: Changes to DEIS Volume I and Appendix M to Conform to Basin States' Proposal re Intentionally Created Surplus.
2. Exhibit 2: Letter from Herbert R. Guenther to Robert W. Johnson, November 28, 2005.

¹⁰ Attached as Exhibit 5 are additional technical corrections by the State of Arizona regarding the Draft EIS that are self-explanatory and therefore not discussed in the body of this letter..

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3. Exhibit 3: Director's Shortage Sharing Workgroup Recommendation, October 24, 2006 (Revised)
Final
 4. Exhibit 4: Arizona Multiple Consecutive Year Shortage Graphs.
 5. Exhibit 5: ADWR technical corrections to DEIS.
- c: Robert W. Johnson, Commissioner, U. S. Bureau of Reclamation
Rick Gold, Regional Director, U. S. Bureau of Reclamation, Upper Colorado Regional Office
Jayne Harkins, Acting Regional Director, U. S. Bureau of Reclamation, Lower Colorado Regional
Office
Larry Walkoviak, Deputy Regional Director, U. S. Bureau of Reclamation, Lower Colorado Regional
Office

EXHIBIT 1

**Changes to DEIS Volume I and
Appendix M to Conform to Basin
States' Proposal re Intentionally
Created Surplus**

CHANGES TO DEIS VOLUME I AND APPENDIX M TO CONFORM TO BASIN STATES PROPOSAL RE INTENTIONALLY CREATED SURPLUS

ES.1 Background

The Secretary of the United States Department of the Interior (Secretary), acting through the Bureau of Reclamation (Reclamation), proposes to adopt specific interim guidelines for Colorado River Lower Basin (Lower Basin) shortages and coordinated operations for Lake Powell and Lake Mead, particularly under drought and low reservoir conditions.

Reclamation, as the agency that is designated to act on the Secretary's behalf with respect to operation of Olen Canyon Dam and Hoover Dam and managing the mainstream waters of the lower Colorado River pursuant to federal law, is the lead federal agency for the purposes of compliance pursuant to the National Environmental Policy Act of 1969 (NEPA) for the development and implementation of the proposed interim guidelines. Five federal agencies are cooperating for purposes of assisting with environmental analysis and preparation of the Draft EIS. The cooperating agencies are the Bureau of Indian Affairs (BIA), United States Fish and Wildlife Service (FWS), National Park Service (NPS), Western Area Power Administration (Western), and the United States Section of the International Boundary and Water Commission (USIBWC).

The Draft EIS includes six chapters as outlined below:

- Chapter 1: Purpose and Need;
- Chapter 2: Description of Alternatives;
- Chapter 3: Affected Environment;
- Chapter 4: Environmental Consequences;
- Chapter 5: Other Considerations and Cumulative Impacts; and
- Chapter 6: Consultation and Coordination.

ES.1.1 Purpose and Need for Action

During the period of 2000 through 2006, the Colorado River Basin experienced the worst drought conditions in approximately one hundred years of recorded history. During this period, storage in Colorado River reservoirs has dropped from nearly full to less than 60 percent of capacity at the end of 2006. Currently, the Department of the Interior (Department) does not have specific operational guidelines in place to define the circumstances under which the Secretary would reduce the annual amount of water available for consumptive use from Lake Mead nor to address the coordinated operations of Lake Powell and Lake Mead during drought and low reservoir conditions.

The purpose of the proposed federal action is to: 1) improve Reclamation's management of the Colorado River by considering tradeoffs between frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, and on water supply, power production, recreation, and other environmental resources; 2) provide mainstream United States users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions; and 3) provide for the creation and delivery of intentionally created surplus ("ICS") water in Lake Mead.

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Deleted: supplies

ES.1.2 Proposed Federal Action

The proposed federal action includes the adoption of specific interim guidelines for Lower Basin shortages and coordinated operations for Lake Powell and Lake Mead. These interim guidelines would remain in effect for determinations to be made through 2025 regarding water supply and reservoir operating decisions through 2026 and would provide guidance each year in development of the Annual Operating Plan for Colorado River Reservoirs (AOP). This proposed federal action considers four operational elements that collectively are designed to address the purpose and need for the proposed federal action.

The interim guidelines would be used by the Secretary to:

- Determine those circumstances under which the Secretary would reduce the annual amount of water available for consumptive use from Lake Mead to the Colorado River Lower Division states (Arizona, California, and Nevada) below 7.5 million acre-feet (maf) (a "Shortage") pursuant to Article II(13)(3) of the United States Supreme Court in the case of Arizona v. California, 547 U.S. (2006) (Consolidated Decree);
- Define the coordinated operation of Lake Powell and Lake Mead to provide improved operation of these two reservoirs, particularly under low reservoir conditions;
- Establish the conditions for the creation and delivery, pursuant to applicable federal law, of intentionally created surplus water in Lake Mead for use within the Lower Division states to increase the flexibility of meeting water use needs from Lake Mead; and
- Determine those conditions under which the Secretary may declare the availability of ICS and other surplus water for use within the Lower Division states. The proposed federal action would modify the substance of the existing Interim Surplus Guidelines (ISG), published in the Federal Register on January 25, 2001 (66 Fed. Reg. 7772), and the term of the ISG from 2016 to 2026.

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Deleted: storage

Deleted: conserved Colorado River system and non-system water

Deleted: particularly under drought and low reservoir conditions

ES.1.3 Geographic Scope

The geographic region that could potentially be affected by the proposed federal action begins with Lake Powell and extends downstream along the Colorado River floodplain to the Southerly International Boundary (SIB) with Mexico. In addition to the potential impacts that may occur within the river corridor, the alternatives may also affect the water supply that is available to

specific Colorado River water users in the Lower Basin. The following water agency service areas are also included in the appropriate affected environment discussions:

- Arizona water users, particularly the lower priority water users located in the Central Arizona Project service area;
- The Southern Nevada Water Authority service area; and
- The Metropolitan Water District of Southern California service area. Figure ES-1 shows the geographic scope for the Draft EIS.

ES.1.4 Alternatives

Five alternatives are considered and analyzed in the Draft EIS. The alternatives consist of a No Action Alternative and four action alternatives. The four action alternatives are: Basin States Alternative, Conservation Before Shortage Alternative, Water Supply Alternative, and Reservoir Storage Alternative. The action alternatives reflect input from Reclamation staff, the cooperating agencies, stakeholders, and other interested parties.

Reclamation received two written proposals for alternatives that met the purpose and need of the proposed federal action, one from the seven Colorado River Basin States (Basin States) and another from a consortium of environmental non-governmental organizations (NGO). These proposals were used by Reclamation to formulate two of the alternatives considered and analyzed in the Draft EIS (Basin States Alternative and Conservation Before Shortage Alternative, respectively). A third alternative (Water Supply Alternative) was developed by Reclamation and a fourth alternative (Reservoir Storage Alternative) was developed by Reclamation in coordination with the NPS and Western. The alternatives were posted on Reclamation's website (<http://www.usbr.gov/lc/region/programs/strategies.html>) on June 30, 2006.

Reclamation has not identified a preferred alternative in the Draft EIS. The preferred alternative will be identified following public comments on the Draft EIS and will be expressed in the Final EIS. The preferred alternative may be one of the specific alternatives described below or it may incorporate elements or variations of these alternatives.

Summary descriptions of the No Action Alternative and the four action alternatives considered in the Draft EIS are provided below and in Table ES-1.

TABLE ES-1
Matrix of Alternatives

Alternatives	Shortage Guidelines to reduce deliveries from Lake Mead (elevations in feet msl)	Coordinated Reservoir Operations (Lake Mead & Lake Powell) (elevations in feet msl)	<u>Intentionally Created Surplus</u>	Interim Surplus Guidelines for deliveries/releases from Lake Mead	Deleted: Lake Mead Storage and Delivery of Conserved System or Non-system Water
No Action	<ul style="list-style-type: none"> Determination made through the AOP process, absent shortage guidelines Reasonably represented by a two-level shortage strategy – probabilistic protection of Lake Mead elevation 1,050 and absolute protection of Lake Mead elevation 1,000 	<ul style="list-style-type: none"> Minimum objective release of 8.23 maf from Lake Powell unless storage equalization releases are required Operation at low reservoir levels reasonably represented by a 8.23 maf release from Lake Powell down to Lake Powell dead pool 	<ul style="list-style-type: none"> No guidelines for creation and delivery of ICS. 	<ul style="list-style-type: none"> No modification or extension of the ISG which end in 2016 After 2016, determination made through the AOP process, absent surplus guidelines; reasonably represented by the spill avoidance (referred to as the 70R Strategy) 	<ul style="list-style-type: none"> Deleted: No water management mechanism for storage and delivery of conserved system and/or non system water
Basis States	<ul style="list-style-type: none"> Shortages (i.e., reduced deliveries) of 400,500 and 600 kaf from Lake Mead at elevations 1,075, 1,050, and 1,025 respectively Initiate efforts to develop additional guidelines for shortages if Lake Mead falls below elevation 1,025 (Note: includes consultation with Basin States) 	<ul style="list-style-type: none"> Under high reservoir conditions, minimum objective release of 8.23 maf from Lake Powell unless storage equalization release are required Under lower reservoir conditions, either reduce Lake Powell release or balance volumes depending upon elevation at Lake Powell and Lake Mead 	<ul style="list-style-type: none"> Guidelines for the creation and delivery of ICS for augmentation by extraordinary conservation, system efficiency, tributary conservation and importation of non system water. Maximum total ICS in Lake Mead of 2.1 maf. System assessment of 5 percent of ICS. 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026 	<ul style="list-style-type: none"> Formatted: Bulleted + Level: 2 + Aligned at: 18 pt + Tab after: 36 pt + Indent at: 36 pt Deleted: Storage and delivery of conserved system and/or non system water Deleted: Maximum total storage for conserved system and/or non-system water in Lake Mead of 2.1 ma
Conservation Before Shortage	<ul style="list-style-type: none"> Shortages are implemented in any given year when necessary to keep Lake Mead above SNWA's lower intake at elevation 1,000 (absolute protection of elevation 1,000) 	<ul style="list-style-type: none"> Under high reservoir conditions, minimum objective release of 8.23 maf from Lake Powell unless storage equalization releases are required Under lower reservoir conditions, either reduce Lake Powell release or balance volumes depending upon elevation at Lake Powell and Lake Mead 	<ul style="list-style-type: none"> Guidelines for the creation and delivery of different volumes of ICS tied to Lake Mead elevation. Guidelines for the creation Storage and delivery of ICS for augmentation by extraordinary conservation ed, system efficiency, tributary 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026 	<ul style="list-style-type: none"> Deleted: System assessment of 5 percent of stored conserved system and/or non system water Deleted: Prior to shortage, conservation of different volumes of water tied to Lake Mead elevation Formatted: Bulleted + Level: 1 + Aligned at: 18 pt + Tab after: 36 pt + Indent at: 36 pt

Alternatives	Shortage Guidelines to reduce deliveries from Lake Mead (elevations in feet msl)	Coordinated Reservoir Operations (Lake Mead & Lake Powell) (elevations in feet msl)	<u>Intentionally Created Surplus</u> ▼	Interim Surplus Guidelines for deliveries/releases from Lake Mead	Deleted: Lake Mead Storage and Delivery of Conserved System or Non-system Water
		Mead	<p><u>conservation and importation of system and/or non system water</u> ▼</p> <ul style="list-style-type: none"> Water for environmental uses <u>Maximum total ICS greater than 4.2 maf</u> ▼ <u>System assessment of 5 percent of ICS</u> ▼ 		<p>Deleted: Storage and delivery of conserved system and/or non-system water</p> <p>Formatted: Bulleted + Level: 1 + Aligned at: 18 pt + Tab after: 36 pt + Indent at: 36 pt</p> <p>Deleted: Maximum total storage of conserved system and/or non system water greater than 4.2 ma</p>
Water Supply	<ul style="list-style-type: none"> Release full annual entitlement amounts until Lake Mead is drawn down to dead pool (elevation 895) 	<ul style="list-style-type: none"> Minimum objective release of 8.23 maf from Lake Powell unless storage equalization releases are required Balancing if Lake Powell is below elevation 3,575 or Lake Mead is below elevation 1,075 	<ul style="list-style-type: none"> <u>No guidelines for creation and delivery of ICS</u> ▼ 	<ul style="list-style-type: none"> Extension of the existing ISG through 2026 	<p>Deleted: System assessment of 5 percent of stored conserved system and/or non system water</p> <p>Deleted: No water management mechanism for storage and delivery of conserved system and/or non system water</p>
Reservoir Storage	<ul style="list-style-type: none"> Shortages (i.e. reduced deliveries) of 600, 800, 1,000 and 1,200 kaf from Lake Mead at elevations 1,100, 1,075, 1,050, and 1,025 respectively 	<ul style="list-style-type: none"> Minimum objective release of 8.23 maf from Lake Powell if Lake Powell is above elevation 3,595 unless storage equalization releases are required 7.8 maf release from Lake Powell between Lake Powell elevations of 3,560 and 3,595 Balancing below Lake Powell elevation of 3,560 	<ul style="list-style-type: none"> <u>Guidelines for the creation Storage and delivery of ICS for augmentation by extraordinary conservation ed, system efficiency, tributary conservation and importation of system and/or non system water</u> ▼ <u>Maximum total ICS of 3.05 maf</u> ▼ <u>System assessment of 10 percent of ICS</u> ▼ 	<ul style="list-style-type: none"> Permissive provisions of existing ISG terminate in 2007, and during period from 2008 to 2026, surplus determinations are limited to Quantified and Flood Control Conditions. 	<p>Formatted: Bulleted + Level: 1 + Aligned at: 18 pt + Tab after: 36 pt + Indent at: 36 pt</p> <p>Deleted: Storage and delivery of conserved system and/or non system water</p> <p>Deleted: Maximum total storage of conserved system and/or non system water of 3.05 ma</p> <p>Deleted: System assessment of 10 percent of stored conserved system and/or non-system water</p>

ES.1.4.1 No Action Alternative

The No Action Alternative provides a baseline for comparison of each of the action alternatives. The No Action Alternative represents a projection of future conditions that could occur during the life of the proposed federal action without an action alternative being implemented.

Pursuant to the Long-Range Operating Criteria (LROC), the Secretary makes a number of determinations at the beginning of each operating year through the development and execution of the AOP, including the water supply available to users in the Lower Basin and the annual release from Lake Powell. However, the LROC currently does not include specific guidelines for such determinations. Furthermore, there is no actual operating experience under very low reservoir conditions, i.e., there has never been a shortage determination in the Lower Basin. Therefore, in the absence of specific guidelines, the outcome of the annual determination in any particular year in the future cannot be precisely known. However, a reasonable representation of future conditions under the No Action Alternative is needed for comparison to each action alternative. The modeling assumptions used for this representation are consistent with assumptions used in previous environmental compliance documents for the ISG, the Colorado River Water Delivery Agreement, and the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). However, the assumptions used in the No Action Alternative are not intended to limit or predetermine these decisions in any future AOP determination.

ES.1.4.2 Basin States Alternative

The Basin States Alternative was developed by the Basin States and proposes a coordinated operation of Lake Powell and Lake Mead that would minimize shortages in the Lower Basin and avoid risk of curtailments of Colorado River water use in the Upper Basin. This alternative includes shortages to conserve reservoir storage; coordinated operations of Lakes Powell and Mead determined by specified reservoir conditions; guidelines for the creation and delivery of intentionally created surplus through extraordinary conservation, system efficiency, tributary conservation and importation of non-system water in the Lower Basin; and a modification and extension of the ISG through 2026.

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ES.1.4.3 Conservation Before Shortage Alternative

The Conservation Before Shortage Alternative was developed by a consortium of NGOs. The Conservation Before Shortage Alternative includes voluntary, compensated reductions (shortages) in water use to minimize involuntary shortages in the Lower Basin and avoid risk of curtailments of Colorado River water use in the Upper Basin. This alternative includes voluntary shortages prior to involuntary shortages; coordinated operations of Lakes Powell and Mead determined by specified reservoir conditions; an expanded system for the creation and delivery of intentionally created surplus through extraordinary conservation, system efficiency, tributary conservation and importation of non-system water in the Lower Basin, including water for environmental uses; and a modification and extension of the ISG through 2026.

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ES.1.4.4 Water Supply Alternative

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The Water Supply Alternative maximizes water deliveries at the expense of retaining water in storage in the reservoirs for future use. This alternative would reduce water deliveries only when insufficient water to meet entitlements is available in Lake Mead. When reservoir conditions are relatively low, Lakes Powell and Mead would share water

("balance contents"). This alternative does not include any guidelines for the creation and delivery of ICS. The existing ISG would be extended through 2026.

Deleted: a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead.

ES.1.4.5 Reservoir Storage Alternative

The Reservoir Storage Alternative was developed in coordination with the cooperating agencies and other stakeholders, primarily Western and the NPS. This alternative would keep more water in storage in Lake Powell and Lake Mead by reducing water deliveries and by increasing shortages to benefit power and recreational interests. This alternative includes larger, more frequent shortages that serve to conserve reservoir storage; coordinated operations of Lakes Powell and Mead determined by specified reservoir conditions (more water would be held in Lake Powell than under the Basin States Alternative); and an expanded system for the creation and delivery of intentionally created surplus through extraordinary conservation, system efficiency, tributary conservation and importation of non-system water in the Lower Basin. The existing ISG would be terminated after 2007.

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ES.2 Summary of Potential Environmental Effects

ES.2.1 Methodology

Hydrologic modeling of the Colorado River system was conducted to determine the potential hydrologic effects of the alternatives. The modeling provides projections of potential future Colorado River system conditions (i.e., reservoir elevations, reservoir releases, river flows) for comparison of those conditions under the No Action Alternative to conditions under each action alternative. Due to the uncertainty with regard to future inflows into the system, multiple simulations were performed in order to quantify the uncertainties of future conditions and as such, the modeling results are typically expressed in probabilistic terms.

The hydrologic modeling also provides the basis for the analysis of the potential effects of each alternative on other environmental resources such as recreation, biology, and electrical power. The potential effects to specific resources are identified and analyzed for each action alternative and are compared to the potential effects to that resource under the No Action Alternative. These comparisons are typically expressed in terms of the relative differences in probabilities between the No Action Alternative and the action alternatives.

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ES.2.3 Water Deliveries

All of the action alternatives generally improve water supply conditions during the interim period relative to the No Action Alternative, improve the probability that normal deliveries will

be met, and reduce the probability that Shortage condition deliveries will occur. The differences between the action alternatives and the No Action Alternative, in terms of the probability of occurrence for Normal conditions water supply deliveries, diminish after 2027 and converge by about 2038.

The Water Supply Alternative provides the same probability of Surplus condition deliveries as the No Action Alternative (between about 30 to 40 percent) between 2008 and 2016 and this alternative consistently provides the highest probability of Surplus condition deliveries during the interim period. The Reservoir Storage Alternative provides the lowest probabilities (between about 10 to 20 percent) during the interim period. The surplus provisions under the Basin States and Conservation Before Shortage alternatives are similar and the probability of Surplus conditions between 2010 through 2016 is slightly less than under the No Action Alternative. After 2026 the probability for all alternatives converges and ranges between 10 and 20 percent.

During most of the interim period, the probability of involuntary and voluntary shortage is less under all of the action alternatives compared to the No Action Alternative. The probability of occurrence of shortages under the Water Supply Alternative is generally less than under the No Action Alternative and other action alternatives during the interim period. However, after 2026, the Water Supply Alternative has the highest probability of occurrence. Average shortages that occur under the Water Supply Alternative are significantly less than those observed under the No Action Alternative during the interim period.

The probability of occurrence of shortages under the Reservoir Storage Alternative is slightly higher than under the No Action Alternative between 2008 and 2013. However, after 2013 and through about 2037, shortages under the Reservoir Storage Alternative occur less frequently as compared to the No Action Alternative. In terms of magnitude, the average shortage volumes that are observed during the interim period are highest under the Reservoir Storage Alternative.

Shortages also occur less frequently under the Basin States and Conservation Before Shortage alternatives during the interim period as compared to the No Action Alternative and are similar after 2026. The probability values of the Basin States Alternative and Conservation Before Shortage Alternative differ by a maximum of about five percent with those of the Conservation Before Shortage Alternative being generally slightly lower than those under the Basin States Alternative. The probability of an involuntary and voluntary shortage under the No Action Alternative in 2026 is 47 percent. In contrast, in 2026, the probability of an involuntary and voluntary shortage under the Basin States, Conservation Before Shortage, Water Supply, and Reservoir Storage alternatives is 35 percent, 33 percent, nine percent, and 37 percent, respectively. In terms of magnitude, the average involuntary and voluntary shortages that are observed under the Basin States and Conservation Before Shortage alternatives are similar to each other and both are less than those observed under the No Action Alternative during the interim period. After 2026, the average shortage volumes are similar.

The ICS Program assumed as part of the Basin States, Conservation Before Shortage and Reservoir Storage alternatives has the effect of decreasing the occurrence of shortages. The greatest reduction during the interim period occurs under the Reservoir Storage Alternative.

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Chapter 1.

1.1 Introduction (Text unchanged and intentionally omitted)

1.2 Proposed Federal Action

The proposed federal action includes the adoption of specific interim guidelines for Lower Basin shortages and coordinated operations of Lake Powell and Lake Mead. These interim guidelines would remain in effect for determinations to be made through 2025 regarding water supply and reservoir operating decisions through 2026 and would provide guidance each year in development of the AOP. This proposed federal action considers four operational elements that collectively are designed to address the purpose and need for the proposed federal action; these elements are addressed in each of the alternatives described in Chapter 2.

The interim guidelines would be used by the Secretary to:

1. Determine those circumstances under which the Secretary would reduce the annual amount of water available for consumptive use from Lake Mead to the Colorado River Lower Division states (Arizona, California, and Nevada) (Section 1.7) below 7.5 million acre-feet (maf) (a "Shortage") pursuant to Article II(B)(3) of the Consolidated Decree;
2. Define the coordinated operation of Lake Powell and Lake Mead to provide improved operation of these two reservoirs, particularly under low reservoir conditions;
3. Allow for the intentional creation of surplus pursuant to applicable federal law, so that, conserved Colorado River system and non-system water in Lake Mead can be made available by forbearance in order to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions; and
4. Determine those conditions under which the Secretary may declare the availability of surplus water for use within the Lower Division states. The proposed federal action would modify the substance of the existing Interim Surplus Guidelines (ISG), published in the Federal Register on January 25, 2001 (66 Fed. Reg. 7772), and the term of the ISG from 2016 to 2026.

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1.3 Purpose of and Need for Action

The purpose of the proposed federal action is to: 1) improve Reclamation's management of the Colorado River by considering the tradeoffs between the frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, water supply, power production, recreation, and other environmental resources; 2) provide mainstream United States users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions; and, 3)

provide for intentionally created surplus so that conserved Colorado River system and non-system water in Lake Mead can be made available by forbearance.

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The proposed federal action is needed for the following reasons:

- The Colorado River is of unique and strategic importance in the southwestern United States for water supply, hydropower production, flood control, recreation, fish and wildlife habitat, and other benefits. In addition, the United States has a delivery obligation to the United Mexican States (Mexico) for certain waters of the Colorado River pursuant to the 1944 Treaty between the United States and Mexico Relating to the Utilization of the Waters of the Colorado and Tijuana Rivers and of the Rio Grande (1944 Treaty);
- The seven-year period from 2000 through 2006 was the driest seven-year period in the 100-year historical record; this drought in the Colorado River Basin has reduced Colorado River system storage, while demands for Colorado River water supplies have continued to increase. From October 1, 1999 through September 30, 2006, storage in Colorado River reservoirs fell from 55.7 maf (approximately 97 percent of capacity) to 33.4 maf (approximately 56.4 percent of capacity), and was as low as 29.7 maf (approximately 52 percent of capacity) in 2004. This drought was the first sustained drought experienced in the Colorado River Basin at a time when all major storage facilities were in place, and when use by the Lower Division states met or exceeded the annual "normal" apportionment of 7.5 maf pursuant to Article II(B)(1) of the Consolidated Decree (Section 1.7). These conditions, among other factors, led the Department to conclude that additional management guidelines are necessary and desirable for the efficient management of the major mainstream Colorado River reservoirs;
- In the future, low reservoir conditions may not be limited to drought periods because of anticipated future demands on Colorado River water supplies. Future Colorado River water demands are projected to increase the frequency and magnitude of drought and low reservoir conditions on the Colorado River;
- As a result of actual operating experience and through reviews of the LROC and preparation of AOPs, particularly during recent drought years, the Secretary has determined a need for more specific guidelines, consistent with the Consolidated Decree and other applicable provisions of federal law to assist in the Secretary's determination of annual water supply conditions in the Lower Basin under low reservoir conditions. The increased level of predictability is needed by water managers and the entities that receive Colorado River water to better plan for and manage available water supplies, and to better integrate the use of Colorado River water with other water supplies that they rely on;
- To date, storage of water and flows in the Colorado River has been sufficient so that it has not been necessary to reduce Lake Mead annual releases below 7.5 maf; that is, the Secretary has never reduced deliveries by declaring a "shortage" on the lower Colorado River. Without operational guidelines in place, water users who rely on the Colorado River in the Lower Division states are not currently able to identify particular reservoir conditions under which the Secretary would reduce the annual amount of water available for consumptive use from Lake Mead to the Lower Division states below 7.5 maf. Nor

are these water users able to identify the frequency or magnitude of any potential future annual reductions in their water deliveries;

- After public consultation meetings held in the summer of 2005, the Secretary has also determined the desirability of developing additional operational guidelines that will provide for releases greater than or less than 8.23 maf from Lake Powell; and
- To further enhance this coordinated reservoir approach, the Secretary has also determined a need for intentionally created surplus guidelines that provide water users in the Lower Division states the opportunity to conserve, and take delivery of water in and from Lake Mead for the purposes of enhancing existing water supplies, particularly under low reservoir conditions. The Secretary has determined the need to modify and extend the ISG to coincide with the duration of the proposed new guidelines. This will provide an integrated approach for reservoir management and more predictability for future Lower Division water supplies.

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1.4 Lead and Cooperating Agencies (Text unchanged and intentionally omitted)

1.5 Scope of the EIS (Text unchanged and intentionally omitted)

1.6 Summary of Contents of this Draft EIS (Text unchanged and intentionally omitted)

1.7 Water Supply Management and Allocation (Text unchanged and intentionally omitted)

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1.7.1.1 Apportionment Provisions

The initial apportionment of water from the Colorado River was determined as part of the Compact, which divided the Colorado River system into two sub-basins, the Upper Basin and the Lower Basin (Figure 1.7-1). The Upper Basin includes those parts of the states of Colorado, Utah, Wyoming, Arizona and New Mexico within and from which waters drain naturally into the Colorado River above Lee Ferry, Arizona. The Lower Basin includes those parts of the states of Arizona, California, Nevada, New Mexico and Utah within and from which waters naturally drain into the Colorado River system below Lee Ferry Compact Point. The Compact also divided the seven Basin States into the Upper Division and the Lower Division states (Figure 1.7-3). The Upper Division states are Wyoming, Utah, Colorado and New Mexico. The Lower Division states are Arizona, California, and Nevada.

The Compact apportioned to the Lower Basin states and the Upper Basin states, in perpetuity, the exclusive beneficial consumptive use of 7.5 maf of water per year (mafy). In addition to this apportionment, Article III(b) of the Compact gives the Lower Basin states the right to increase their beneficial consumptive use by 1.0 mafy. The Compact also stipulates in Article III(d) that the Upper Division states will not cause the flow of the river at Lee Ferry Compact Point to be depleted below an aggregate of 75 maf for any period of 10 consecutive years.

The Compact, in Article VII, states that nothing in the Compact shall be construed as affecting the obligations of the United States to Indian tribes. While the rights of most Indian tribes to Colorado River water were subsequently adjudicated, some Tribal rights remain adjudicated. To the extent that Indian tribes consumptively use water from the Colorado River, such uses are charged against the apportionment of the relevant Colorado River Basin state.

Upper Division State Apportionments. Upper Division state apportionments were established by the Upper Colorado River Basin Compact of 1948. These apportionments allocate the Upper Basin states consumptive use after deduction of up to 50,000 acre-feet per year (afy) for Arizona as follows: Wyoming, 14.00 percent; Utah, 23.00 percent; Colorado, 51.75 percent; and New Mexico, 11.25 percent. The Upper Basin state apportionments have not yet been fully developed.

Lower Division State Apportionments. Lower Division state apportionments were established by Congress in the BCPA. These apportionments are: California, 4.4 maf; Arizona, 2.8 maf; and Nevada, 0.3 maf, totaling 7.5 maf, subject to annual increases or reductions pursuant to Secretarial determinations of Shortage or Surplus conditions.

Under Article II(B)(2) of the Decree in *Arizona v. California*, when the Secretary determines there is a Surplus, California is entitled to 50% of the Surplus, Arizona is entitled to 46% and Nevada is entitled to 4%.

Figure 1.7-4 presents a schematic of the operation of the Colorado River, primarily in the Lower Basin. The Consolidated Decree confirms the apportionments to the Lower Division states established by the BCPA and guides the Secretary's operation of facilities, including Hoover Dam, on the lower Colorado River. If water apportioned for use in a Lower Division state is not consumed by that state in any year, the Secretary may release the unused water for use in another Lower Division state. Consumptive use by a Lower Division state includes delivered water that is stored off-stream for future use by that state or another state.

All mainstream Colorado River waters apportioned to the Lower Basin, except for a few thousand acre-feet (af) apportioned for use in Arizona, have been fully allocated to specific entities and, except for certain federal establishments, placed under permanent water delivery contracts with the Secretary for irrigation or domestic use. These entities include irrigation districts, water districts, municipalities, Indian tribes, public institutions, private water companies, and individuals. Federal establishments with federal reserved rights established pursuant to Article II(D) of the Consolidated Decree are not required to have a contract with the Secretary, but the water allocated to a federal establishment is included within the apportionment of the Lower Division state in which the federal establishment is located; e.g., Fort Mojave Indian Reservation in California and the Havasu National Wildlife Refuge in Arizona.

The highest priority lower Colorado River water rights are present perfected rights (PPRs), which the Consolidated Decree defines as those perfected rights existing on June 25, 1929, the effective date of the BCPA. The Consolidated Decree also recognizes federal Indian reserved rights for the quantity of water necessary to irrigate all the practicably irrigable acreage (lands considered suitable for irrigation) on five Indian reservations along the lower Colorado River. The Consolidated Decree defines the rights of Indian and other federal reservations to be federal

establishment PPRs. PPRs are important because in any year in which less than 7.5 maf of Colorado River water is available for consumptive use in the Lower Division states, PPRs will be satisfied first, in the order of their priority without regard to state lines.

Waters available to a Lower Division state within its apportionment, but having a priority date later than June 25, 1929, have been allocated by the Secretary through execution of water delivery contracts to water users within that state as required by Section 5 of the BCPA.

Allocation of Colorado River water to Mexico is governed by the 1944 Treaty. Article 10(a) of the 1944 Treaty states:

“(a) A guaranteed annual quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) to be delivered in accordance with the provisions of Article 15 of this Treaty”

Further, Article 10(b) of the 1944 Treaty provides:

“(b) Any other quantities arriving at the Mexican points of diversion, with the understanding that in any year in which, as determined by the United States Section, there exists a surplus of waters of the Colorado River in excess of the amount necessary to supply uses in the United States and the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) annually to Mexico, the United States undertakes to deliver to Mexico, in the manner set out in Article 15 of this Treaty, additional waters of the Colorado River system to provide a total quantity not to exceed 1,700,000 acre-feet (2,096,931,000 cubic meters) a year. Mexico shall acquire no right beyond that provided by this subparagraph by the use of the waters of the Colorado River system, for any purpose whatsoever, in excess of 1,500,000 acre-feet (1,850,234,000 cubic meters) annually.”

Additionally, Article 10 of the 1944 Treaty provides:

“In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) a year, the water allotted to Mexico under subparagraph (a) of this Article will be reduced in the same proportion as consumptive uses in the United States are reduced.”

The proposed federal action is for the purpose of adopting additional operational guidelines to improve the Department's annual management and operation of key Colorado River reservoirs for an interim period through 2026. However, in order to assess the potential effects of the proposed federal action in this Draft EIS, certain modeling assumptions (discussed in Chapter 2) are used that display projected water deliveries to Mexico. Reclamation's modeling assumptions

are not intended to constitute an interpretation or application of the 1944 Treaty or to represent current or future United States policy regarding deliveries to Mexico.

The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Treaty with Mexico through the IBWC in consultation with the Department of State.

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1.7.1.2 Surplus Water Supply Condition Determinations

Surplus conditions exist when the Secretary determines that sufficient mainstream water is available for release to satisfy consumptive use in the Lower Division states in excess of 7.5 maf annually. This excess consumptive use is surplus and is distributed for use in Arizona, California, and Nevada pursuant to the terms and conditions provided in the ISG, adopted in 2001, as agreed by the Lower Basin States. The current provisions of the ISG are scheduled to terminate in 2016.

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In general terms, the ISG link the availability of surplus water to the elevation of Lake Mead. When Lake Mead is full and Reclamation is making flood control releases, surplus supplies are unlimited. As Lake Mead's elevation drops, surplus water amounts are reduced, and ultimately eliminated. Surplus availability is also linked to continued progress by California to take actions to reduce its historic reliance on water in excess of its 4.4 mafy apportionment.

If a state does not use all of its apportioned water for the year, the Secretary may allow other states of the Lower Division to use the unused apportionment, provided that the use is authorized by a water delivery contract with the Secretary.

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2.1 Development of Alternatives

Based on the information and comments received during the scoping process, the proposed federal action has been designed to reflect, among others, three important considerations:

1. Encouraging Conservation of Water: Many comments submitted to Reclamation focused on the importance of encouraging and utilizing water conservation as an important tool to better manage limited water supplies and therefore minimize the likelihood and severity of potential future shortages. Water conservation could occur through a number of approaches such as fallowing of land, canal lining, financial incentives to maximize conservation, dry-year options, and associated storage and recovery methodologies and procedures to address conservation actions by particular parties.
2. Consideration of Reservoir Operations at all Operational Levels: Many comments submitted to Reclamation urged Reclamation to consider and analyze management and operational guidelines for the full range of operational levels at Lake Powell and Lake Mead. It was suggested that this approach is integral to the prudent development of new

low-reservoir operational guidelines, as the approach and management of these reservoirs at higher elevations has a direct impact on available storage, thereby affecting the likelihood and severity of potential future shortages.

3. **Term of Operational Guidelines:** Many comments urged Reclamation to consider interim, rather than permanent, additional operational guidelines. In this manner, Reclamation would have the ability to use actual operating experience for a period of years, thereby facilitating a better understanding of the operational effects of the new guidelines. Modifications could then be made, if necessary, based on this operating experience.

As a result of the analyses of the comments and input received by Reclamation, the following four operational elements of the proposed federal action were developed;

1. **Shortage Guidelines:** Adoption of guidelines that would identify those circumstances under which the Secretary would reduce the annual amount of water available for consumptive use from Lake Mead to the Lower Division states below 7.5 maf, pursuant to the Consolidated Decree.

The primary purpose of this element is the orderly rationing of water supplies during drought and low-reservoir conditions. While Lake Powell and Lake Mead have large storage capacities, water supply demands are increasing and careful management of existing water supplies will help ensure sufficient supplies are available to meet these demands. The proposed shortage guidelines in the alternatives range from aggressive shortages to no reduction of water supplies until the reservoirs are empty. Most of the alternatives have discrete stepped levels of shortage associated with specific Lake Mead reservoir elevations.

2. **Coordinated Reservoir Operations:** Adoption of guidelines for the coordinated operation of Lake Powell and Lake Mead to provide improved operation of these two reservoirs, particularly under low-reservoir conditions.

Lake Powell and Lake Mead operations are currently coordinated only under high reservoir elevations through storage equalization. The action alternatives consider various options designed to better utilize existing reservoir storage throughout the full range of reservoir operations to enhance both water supply and other benefits of the reservoir system for both basins.

3. **Intentionally Created Surplus Guidelines:** Adoption of guidelines for the intentional creation of surplus water and Secretarial declaration of surplus in order to make conserved Colorado River system and non-system water available in the Lower Colorado River to those who create such surplus water, pursuant to applicable federal law, to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low-reservoir conditions.

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One way to increase water deliveries during drought is the augmentation of existing water supplies through extraordinary conservation, system efficiency projects, tributary conservation and water importation. The alternatives consider options for the intentional creation of surplus water ("ICS") in Lake Mead whereby system and non-system water may be conserved in Lake

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Mead, with various limits on the maximum amount and delivery of the ICS. The alternatives range from an operational scenario that considers no new mechanism (status quo) to a maximum Lake Mead ICS volume of 4.2 maf.

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Reclamation will establish guidelines for administration of ICS as part of this public NEPA process. The guidelines will set forth Reclamation requirements for verification of the creation of ICS and water accounting procedures. Although the guidelines for this element are interim and will expire in 2026, some of the conservation projects established under the guidelines could be permanent in duration.

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- 4. Interim Surplus Guidelines (ISG):** Adoption of guidelines that would identify the conditions under which the Secretary may declare the availability of surplus water for use within the Lower Division states. The proposed federal action would modify the substance of the existing ISG and extend the term of the ISG from 2016 to 2026.

The ISG are due to expire in 2016. The alternatives range from termination of the permissive provisions of the existing ISG in 2007 to extension of the current provisions of the ISG through 2026. This element of the proposed federal action helps establish an operational strategy for the full range of reservoir operations through 2026.

The alternatives considered and analyzed in this Draft EIS include some formulation of each of these four operational elements.

Reclamation has developed four action alternatives for analysis in this EIS. These alternatives reflect input from Reclamation staff, the cooperating agencies, stakeholders, and other interested parties. Reclamation received two written proposals for alternatives that met the purpose and need of the proposed federal action, one from the Basin States and another from a consortium of environmental organizations. These proposals were used by Reclamation to formulate two of the alternatives considered and analyzed in this Draft EIS. A third alternative (Water Supply Alternative) was developed by Reclamation and a fourth alternative (Reservoir Storage Alternative) was developed in coordination with the NPS and Western. The alternatives were posted on Reclamation's website (<http://www.usbr.gov/lc/region/programs/strategies.html>) on June 30, 2006.

Reclamation has not identified a preferred alternative in this Draft EIS. The preferred alternative will be identified following public comments on the Draft EIS and will be expressed in the Final EIS. The preferred alternative may be one of the specific alternatives described below or it may incorporate elements or variations of these alternatives.

2.2 No Action Alternative

The No Action Alternative provides a baseline against which action alternatives can be compared. The No Action Alternative represents a projection of current conditions to the most reasonable future responses or conditions that could occur during the life of the proposed federal action without any action alternative being implemented.

Pursuant to the LROC, the Secretary makes a number of determinations at the beginning of each operating year through the development and execution of the AOP, including the water supply available to users in the Lower Basin and the annual release from Lake Powell. The LROC do not include specific guidelines for such determinations. Furthermore, there is no actual operating experience under very low reservoir conditions, e.g., there has never been a shortage determination in the Lower Basin. Therefore, in the absence of specific guidelines, the outcome of the annual determination in any particular year in the future cannot be precisely known. However, a reasonable representation of future conditions under the No Action Alternative is needed for comparison to each action alternative. The modeling assumptions used for this representation are consistent with assumptions used in previous environmental compliance documents for the ISG, the Colorado River Water Delivery Agreement, and the LCR MSCP (Section 1.8). However, the assumptions used in the No Action Alternative are not intended to limit or predetermine the action decision in any future AOP determination.

The formulation of the four elements for the No Action Alternative follows.

2.2.1 Shortage Guidelines

Each year, the Secretary makes a determination as to whether the consumptive use requirements of mainstream users in the Lower Division states will be met under a Normal, Surplus, or Shortage condition, in accordance with the Consolidated Decree and the LROC. The LROC specify that the Secretary will consider all relevant factors in making a shortage determination and list some of the factors to be considered. However, there is no specific guidance as to exactly when, how, or to whom reductions in deliveries would be made. Therefore, it is impossible to know exactly how the Secretary might make a shortage determination in the future. Furthermore, conditions in the Colorado River Basin have been such that there has not been a need to declare a Shortage condition and there is no actual operating experience with regard to shortage determinations.

To obtain a reasonable representation of future conditions under no action (while not representing official policy of the Department with regard to future determinations), the following assumptions were made;

- As used in modeling assumptions for previous environmental compliance documents, shortage trigger elevations (Figure 2.2-1) were used to prevent Lake Mead's water level from declining below elevation 1,050 feet msl with approximately an 80 percent probability (known as a "Level 1 Shortage", Appendix A). In a given year, a shortage (or reduction in deliveries) that ranges from approximately 350 to 500 kaf would be imposed when the projected January 1 Lake Mead elevation is below the trigger elevation for that year; and
- If Lake Mead's elevation were to continue to decline, additional reductions would be imposed to keep Lake Mead above 1,000 feet msl. This approach essentially provides absolute protection of SNWA's lower intake (elevation 1,000 feet msl) at Lake Mead and would reduce deliveries to water users (including SNWA) by amounts required to maintain the Lake Mead water level at or above 1,000 feet msl.

In accordance with the Consolidated Decree, the CRBPA, and other key provisions of the Law of the River, the Secretary has the authority to declare and allocate shortages to the Lower Division states. Although some guidance exists with regard to how shortages would be allocated (e.g., PPR deliveries must be met without regard to state lines, California does not incur shortages until Arizona post-1968 contracts are reduced completely), there are no specific guidelines in place to further inform the Secretary's decision with respect to how shortages might be shared by the water users in Arizona, California and Nevada. In addition, the determination of deliveries to Mexico is not a part of the proposed federal action. Any such determination would be made in accordance with the 1944 Treaty (Section 1.7).

Nevertheless, modeling assumptions with respect to the distribution of shortages for the Lower Division states and Mexico are necessary in order to analyze potential impacts to hydrologic and other environmental resources. These modeling assumptions were applied to the No Action Alternative as well as the action alternatives, i.e., the modeling assumptions with regard to the distribution of shortages are identical in all alternatives.

It was assumed that shortages would be allocated to each Lower Division state and Mexico based on percentages of the total shortage being applied. The modeling assumptions for distribution of shortages used in this Draft EIS are presented in Table 2.2-1. More detailed descriptions of these modeling assumptions are provided in Appendix A under Stage 1.

Shortages are first imposed under Stage 1 and would be applied to the most junior users within Arizona (those with post-1968 water rights, i.e., 4th and 5th priority rights within Arizona) and Nevada (primarily the SNWA). Stage 1 shortages continue until the deliveries to the post-1968 water rights holders in Arizona (including the CAP) are reduced to zero. The maximum amount of Stage 1 shortages during the period of analysis is dependent on the scheduled depletions for the post-1968 water rights holders and decreases over time from approximately 1.8 maf in 2008 to 1.7 maf in 2060.

After deliveries to the 4th and 5th priority rights within Arizona are reduced to zero, additional reductions are applied to Arizona, California, and Nevada. These shortages, referred to as Stage 2 shortages, continue to the maximum necessary to keep Lake Mead elevation above 1,000 feet nisi.

2.2.2 Coordinated Reservoir Operations

The No Action Alternative assumes Lake Powell's operation would follow the current operating criteria as specified by the LROC and as implemented through the AOP process. The three possible factors affecting the annual releases from Lake Powell are: 1) minimum objective release; 2) storage equalization; and 3) spill avoidance.

Pursuant to the LROC, the objective under current operational conditions is to maintain a minimum release of water from Lake Powell of 8.23 maf for the water year. Under the No Action Alternative, a minimum release of 8.23 maf is assumed to be made each water year unless storage equalization or spill avoidance determinations are in effect.

Annual releases from Lake Powell greater than the minimum objective release occur when Upper Basin storage is greater than the storage required by 602(a) storage, and the storage in Lake Powell is forecast to be greater than the storage in Lake Mead by the end of that water year. Under these conditions, additional releases are made from Lake Powell to equalize the storage in Lake Mead with the storage in Lake Powell by the end of the water year.

The 602(a) storage requirement specifies the amount of storage in Upper Basin reservoirs necessary to assure deliveries to the Lower Basin in compliance with the Compact without impairment to the annual consumptive use in the Upper Basin. If the 602(a) storage requirement is not met, equalization does not occur. The LROC specifies that all relevant factors including historic stream flows, the most critical period of record, the probabilities of water supply, and estimated future depletions be considered when determining the 602(a) storage amount.

In 2004, an Interim 602(a) Storage Guideline was adopted that specifies that through 2016, the 602(a) storage requirement shall utilize a storage amount of not less than 14.85 maf which corresponds to 3,630 feet msl for Lake Powell. Under the No Action Alternative, the determination of 602(a) storage is consistent with the storage criterion and the provisions of the Interim 602(a) Storage Guideline. The algorithm used to calculate the 602(a) storage requirement is presented in Appendix A.

Annual release volumes from Lake Powell greater than the minimum objective of 8.23 maf may also be made to avoid anticipated spills. An objective in the operation of Glen Canyon Dam is to attempt to safely fill Lake Powell each summer. When carryover storage from the previous year in combination with forecasted inflow is projected to exceed Lake Powell's storage capacity, Reclamation schedules the release of the volumes of water needed to avoid spills. Subject to actual inflows, Lake Powell is operated to reach storage of about 23.8 maf in July (0.5 maf from full pool). In years when Lake Powell fills or nearly fills during the summer, additional releases in the late summer and early winter are made to draw the reservoir level down, so that there is at least 2.4 maf of vacant space in Lake Powell on September 30 for flood protection. Under the No Action Alternative, it is assumed that spill avoidance releases are made when necessary.

2.2.3 Intentionally Created Surplus Guidelines,

There are currently no guidelines in place for the creation and delivery of intentionally created surplus water ("ICS") in Lake Mead; therefore, the No Action Alternative assumes that none will exist during the interim period.

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2.2.4 Interim Surplus Guidelines

The ISG specify ranges of Lake Mead elevations and operational conditions that are used to determine the availability of surplus water for each year during their effective term. The elevation ranges are coupled with specific uses of surplus water so that if Lake Mead's elevation declines, the amount of surplus water is reduced. The different surplus conditions are described below:

2.2.4.1 Flood Control Surplus

If flood control releases are anticipated to be required given the current inflow forecast, the Secretary declares Flood Control Surplus conditions for that year. The estimated annual amount of surplus water available for pumping and release from Lake Mead (in addition to the 7.5 maf normal apportionment) varies over time (2002 to 2016) and ranges between 1.20 to 1.58 mafy. Under current practice, Mexico is allowed to schedule up to an additional 200 thousand acre-feet (kaf) pursuant to the 1944 Treaty during flood control years when water supplies exceed those required for use in the United States.

2.2.4.2 Quantified Surplus (70R Strategy)

If flood control releases are anticipated to be required assuming the 70th percentile inflow (the inflow value from the historical record that has not been exceeded more than 30 percent of the time), the Secretary declares Quantified Surplus conditions for that year. The estimated annual amount of surplus water available for pumping and release from Lake Mead (in addition to the 7.5 maf normal apportionment) varies over time (2002 to 2016) and ranges between 1.02 to 1.45 mafy.

2.2.4.3 Full Domestic Surplus (Lake Mead at or above Elevation 1,145 feet msl)

If the projected January 1 Lake Mead elevation is at or above 1,145 feet msl but below the elevation calculated by the 70R Strategy, the Secretary declares a Full Domestic Surplus condition for that year. The projected annual amounts of surplus water available for pumping and release from Lake Mead (in addition to the 7.5 maf normal apportionment) vary over time (2002 to 2016) and range between 340 to 535 thousand acre-feet per year (kafy).

2.2.4.4 Partial Domestic Surplus (Lake Mead at or above Elevation 1,125 feet msl)

If the projected January 1 Lake Mead elevation is at or above 1,125 feet msl and below 1,145 feet msl, the Secretary declares Partial Domestic Surplus conditions for that year. The estimated annual amounts of surplus water available for pumping and release from Lake Mead (in addition to the 7.5 maf normal apportionment) vary over time (2002 to 2016) and range between 90 to 375 kafy.

2.2.4.5 Normal and Shortage Conditions (Lake Mead below Elevation 1,125 feet msl)

If the projected January 1 Lake Mead elevation is at or below 1,125 feet msl, the Secretary declares Normal conditions or Shortage conditions for that year.

Under the No Action Alternative, surplus determinations through 2016 would be as described above. After 2016, it is assumed that surplus determinations would only be based on the more conservative Quantified Surplus (70R Strategy) and Flood Control Surplus conditions. Further details of these modeling assumptions to represent the ISG are presented in Appendix A.

2.3 Basin States Alternative

The Basin States Alternative proposes a coordinated operation of Lake Powell and Lake Mead that would minimize shortages in the Lower Basin and avoid risk of curtailments of use in the Upper Basin. This alternative also provides ~~for ICS guidelines in order to promote, extraordinary conservation, system efficiency, tributary conservation and importation of non-system water in~~ the Lower Basin. The formulation of the four elements for the Basin States Alternative follows.

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2.3.1 Shortage Guidelines

The Basin States Alternative provides discrete stepped levels of shortage associated with specific Lake Mead elevations as presented below. This alternative provides criteria for shortages of up to a maximum of 600 kaf at Lake Mead elevation of 1,025 feet msl and suggests that consultations between the Basin States and Reclamation would be undertaken to define additional shortages below that elevation. The possible outcomes of such a consultation process are unknown; therefore, for modeling purposes it was assumed that shortages of 600 kaf would continue to be applied at Lake Mead elevations below 1,025 feet msl. The stepped shortages modeled under the Basin States Alternative are as follows:

- When Lake Mead is projected to be below elevation 1,075 feet msl and at or above 1,050 feet msl on January 1, a shortage of 400 kaf shall be declared for that year;
- When Lake Mead is projected to be below elevation 1,050 feet msl and at or above 1,025 feet msl on January 1, a shortage of 500 kaf shall be declared for that year;
- When Lake Mead is projected to be below elevation 1,025 feet msl on January 1, a shortage of 600 kaf shall be declared for that year; and
- When Lake Mead elevation approaches the top of the dead pool (895 feet msl), the deliveries from Lake Mead are reduced to the amount of water available.

2.3.2 Coordinated Reservoir Operations

Under the Basin States Alternative, the annual Lake Powell release is based on a volume of water in storage or corresponding elevation in Lake Powell and Lake Mead as described below.

2.3.2.1 Equalization

The Basin States Alternative provides an elevation schedule (Table 2.3-1) that would be used in determining when equalization releases would be made.

When Lake Powell is at or above these specified elevations and when the volume of Lake Powell is projected to be greater than the volume of Lake Mead at the end of the water year, Lake Powell would release greater than 8.23 mafy to equalize its volume with Lake Mead. Otherwise, 8.23 maf is released from Lake Powell.

2.3.2.2 Upper Elevation Balancing

When Lake Powell is below the elevations stated in Table 2.3-1 and is projected to be at or above 3,575 feet msl at the end of the water year, a release in the amount of 8.23 maf from Lake Powell would be made if the projected elevation of Lake Mead is at or above 1,075 feet msl at the end of the water year. If the projected end of water year elevation of Lake Mead is below 1,075 feet msl, the volumes of Lake Mead and Lake Powell would be balanced if possible, within the constraint that the release from Lake Powell would not be more than 9.0 maf and no less than 7.0 maf.

2.3.2.3 Mid-Elevation Releases

When Lake Powell elevation is projected to be below 3,575 feet msl and at or above 3,525 feet msl at the end of the water year, a release in the amount of 7.48 maf would be made if the projected end of water year elevation of Lake Mead is at or above 1,025 feet msl. If the projected end of water year elevation of Lake Mead is below 1,025 feet msl, a release of 8.23 maf from Lake Powell would be made.

2.3.2.4 Lower Elevation Balancing

When the projected end of water year elevation of Lake Powell is below 3,525 feet msl, Lake Mead and Lake Powell would be balanced if possible, within the constraint that the release from Lake Powell would not be more than 9.5 maf and no less than 7.0 maf.

2.3.3 Intentionally Created Surplus Guidelines,

The Basin States Alternative includes the adoption of guidelines for the creation and delivery of ICS to encourage and account for augmentation and conservation of water supplies, e.g., fallowing of land, canal lining, system efficiency improvements, tributary conservation and introduction of non-system water in the Lower Basin.

In addition to increasing the flexibility of meeting water use needs from Lake Mead, the ICS would benefit the system by providing more water in Lake Mead. At the time ICS is created, five percent of the ICS would be dedicated to the system on a one-time basis. Additionally, ICS in Lake Mead longer than one year would be subject to annual evaporation losses of three percent per year. If flood control releases occur, ICS would be reduced on a pro-rata basis among all holders of ICS until no ICS remains, i.e., ICS would be released first. No ICS would be available for delivery in shortage years. However, Developed Water (water produced by tributary conservation and imported non-system water) would be available for delivery during a declared shortage, with certain limitations.

The maximum amount of ICS that can be created during any year, the maximum cumulative amount of ICS that can be available at any one time, and the maximum amount of ICS that may be recovered for use in each Basin State in any one year under this alternative are presented in Table 2.3-2.

Table 2.3-2

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<i>Basin States Alternative</i>			
<i>Volume Limitations of ICS</i>			
<i>Entity</i>	<i>Maximum Annual Creation of ICS (kaf)</i>	<i>Maximum Cumulative Total ICS (kaf)</i>	<i>Maximum Annual Deliveries of ICS (kaf)</i>
<i>Arizona</i>	<i>100</i>	<i>300</i>	<i>300</i>
<i>California</i>	<i>400</i>	<i>1,500</i>	<i>400</i>
<i>Nevada</i>	<i>125</i>	<i>300</i>	<i>300</i>
<i>Total</i>	<i>625</i>	<i>2,100</i>	<i>1,000</i>

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2.3.4 Interim Surplus Guidelines

The Basin States Alternative includes both a modification and an extension of the ISG. The ISG would be extended through 2026 and be modified by eliminating the Partial Domestic Surplus condition, beginning in 2008, and limiting the amount of water available under the Full Domestic Surplus condition during the period 2017 through 2026.1 The elimination of the Partial Domestic Surplus condition reduces the amount of surplus water that could be made available and leaves more water in storage to reduce the severity of future shortages.

2.4 Conservation Before Shortage Alternative

The Conservation Before Shortage Alternative was developed by a coalition of NGOs, including Defenders of Wildlife, Environmental Defense, National Wildlife Federation, Pacific Institute, Sierra Club, Sonoran Institute, The Nature Conservancy, and the Rivers Foundation of the Americas. The Conservation Before Shortage Alternative includes voluntary, compensated reductions in water use to minimize involuntary shortages in the Lower Basin and avoid risk of curtailments of use in the Upper Basin. This alternative also provides a mechanism for promoting water conservation in the Lower Basin by expanding the ICS mechanism. The formulation of the four elements for the Conservation Before Shortage Alternative follows.

2.4.1 Shortage Guidelines

Although the Conservation Before Shortage Alternative does not include stepped, involuntary shortages, it does include voluntary conservation levels similar to the Basin States Alternative shortage levels described in Section 2.3. These voluntary conservation levels are described below.

During 2017 through 2026, the distribution of Domestic Surplus water would be limited as follows: 1) for use by MWD, 250 kafy in addition to the amount of California's basic apportionment available to MWD; 2) for use by SNWA, 100 kafy in addition to the amount of Nevada's basic apportionment available to SNWA; and 3) for use in Arizona, 100 kafy in addition to the amount of Arizona's basic apportionment available to Arizona contractors.

This alternative provides a shortage strategy that would absolutely protect Lake Mead elevation of 1,000 feet msl whereby water deliveries would be reduced by the amount required to maintain Lake Mead elevations at or above 1,000 feet msl.

2.4.2 Coordinated Reservoir Operations

The Conservation Before Shortage Alternative assumes the same coordinated reservoir operations as the Basin States Alternative described in Section 2.3.

Intentionally Created Surplus Guidelines. The ICS triggers proposed under this alternative are as follows:

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- When Lake Mead is projected to be below elevation 1,075 feet msl and at or above 1,050 feet msl on January 1, the Secretary will seek the conservation of 400 kaf of water which would become ICS;
- When Lake Mead is projected to be below elevation 1,050 feet msl and at or above 1,025 feet msl on January 1, the Secretary will seek the conservation of 500 kaf of water which would become ICS; and
- When Lake Mead is projected to be below 1,025 feet msl on January 1, the Secretary will seek the conservation of 600 kaf of water become ICS.

The ICS would be generated by activities similar to those described in the Basin States Alternative (Section 2.3). In addition, participation in the ICS program would be expanded to include other entities as shown in Table 2.4-1.

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The maximum amount of ICS that can be created during any year, the maximum cumulative amount of ICS that can be available at any one time, and the maximum amount of ICS that may be recovered by each entity in any one year under this alternative are presented in Table 2.4-1.

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Table 2.4-1

Conservation Before Shortage Alternative

Volume Limitations of ICS

<u>Entity</u>	<u>Maximum Annual Creation of ICS (kaf)</u>	<u>Maximum Cumulative Total ICS (kaf)</u>	<u>Maximum Annual Deliveries of ICS (kaf)</u>
<u>Arizona</u>	<u>100</u>	<u>300</u>	<u>300</u>
<u>California</u>	<u>400</u>	<u>1,500</u>	<u>400</u>
<u>Nevada</u>	<u>125</u>	<u>300</u>	<u>300</u>

<u>Unassigned</u>	<u>825</u>	<u>2,100</u>	<u>600</u>
Total	1,450	4,200	1,600
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28 2.5 Water Supply Alternative

29 The Water Supply Alternative is intended to maximize water deliveries at the expense of
 30 retaining water in storage in the reservoirs for future use. This alternative would implement
 31 shortages only when insufficient water to meet entitlements is available in Lake Mead. The
 32 formulation of the four elements for the Water Supply Alternative follows.

33 2.5.1 Shortage Guidelines

34 Under the Water Supply Alternative, shortages would not be imposed until Lake Mead nears
 35 elevation 895 feet msl (top of the dead pool). Near that elevation, releases would be limited
 36 to the amount of water available. However, when Lake Mead elevation drops below
 37 1,000 feet msl SNWA would be unable to take water through its lower intake.

1 2.5.2 Coordinated Reservoir Operations

2 When Lake Powell elevation is projected to be above 3,575 feet msl at the end of the water
 3 year, the operation of Lake Powell is the same as the No Action Alternative unless Lake
 4 Mead elevation is below 1075 feet msl. When Lake Powell elevation is projected to be
 below
 5 3,575 feet msl at the end of the water year or Lake Mead elevation is projected to be below
 6 1,075 feet msl at the end of the water year, the volumes of Lake Powell and Lake Mead
 7 would be balanced if possible, within the constraint that the release from Lake Powell would
 8 not be more than 9.5 maf and no less than 7.0 maf.

9 2.5.3 Intentionally Created Surplus Guidelines

10 The Water Supply Alternative does not include a guidelines for the creation and
 delivery of ICS.

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 . 11 . conserved system and non-system water in Lake Mead.

12 2.5.4 Interim Surplus Guidelines

13 Under this alternative, the existing ISG would be extended through 2026.

14 2.6 Reservoir Storage Alternative

15 The Reservoir Storage Alternative was developed in coordination with the cooperating agencies
 16 and other stakeholders, primarily Western and the NPS. This alternative would keep more water
 17 in storage in Lake Powell and Lake Mead by reducing water deliveries and increasing shortages
 18 to benefit power and recreational interests. This alternative also provides a mechanism for
 19 promoting water conservation in the Lower Basin. The formulation of the four elements for the
 20 Reservoir Storage Alternative follows.

21 2.6.1 Shortage Guidelines

22 The Reservoir Storage Alternative is similar to the Basin States Alternative in that it
 provides

23 discrete stepped levels of shortage associated with specific Lake Mead reservoir elevations
24 (Section 2.3). However, shortages in this alternative begin at a higher Lake Mead elevation
25 and the stepped shortages are larger so that more water would be retained in storage and
26 higher Lake Powell and Lake Mead elevations would be maintained. The Reservoir Storage
27 Alternative does not contain provisions that would protect the Lake Mead elevation of
28 1,000 feet msl.

29 The stepped shortages under this alternative are as follows:

- 30 ♦ When Lake Mead is projected to be below elevation 1,100 feet msl and at or above
31 1,075 feet msl on January 1, a shortage of 600 kaf would be imposed for that year;
- 32 ♦ When Lake Mead is projected to be below elevation 1,075 feet msl and at or above
33 1,050 feet msl on January 1, a shortage of 800 kaf would be imposed for that year;
- 34 ♦ When Lake Mead is projected to be below elevation 1,050 feet msl and at or above
35 1,025 feet msl on January 1, a shortage of 1,000 kaf would be imposed for that year;
36 and
- 1 ♦ When Lake Mead is projected to be below 1,025 feet msl on January 1, a shortage
of
2 1,200 kaf would be imposed for that year.

3 2.6.2 Coordinated Reservoir Operations

4 When Lake Powell elevation is projected to be above 3,595 feet msl at the end of the water
5 year, the operation of Lake Powell would be the same as under the No Action Alternative.
6 Elevations at Lake Powell that trigger releases that are less than the minimum objective
7 release of 8.23 maf are tied to critical recreation elevations at Lake Powell as follows:

- 8 ♦ When Lake Powell elevation is projected to be below 3,595 feet msl and above 3,560
9 feet msl at the end of the water year, a release in the amount of 7.80 maf from Lake
10 Powell would be made; and
- 11 ♦ When Lake Powell elevation is projected to be below 3,560 feet msl at the end of the
12 water year, the volumes of Lake Powell and Lake Mead would be balanced if
13 possible, within the constraint that the release from Lake Powell would not be more
14 than 9.5 maf and no less than 7.8 maf.

15 2.6.3 Intentionally Created Surplus Guidelines

16 Under the Reservoir Storage Alternative, ICS would be created by activities
17 similar to those described under the Basin States Alternative (Section 2.3). Participation in
18 ICS program would include the entities as shown in Table 2.6-1.

19 The maximum amount of ICS that can be created during any year, the maximum
20 cumulative amount of ICS that can be available at any one time, and the maximum
21 amount of ICS that may be recovered by each entity in any one year under this
22 alternative are presented in Table 2.6-1.

Table 2.6-1
Reservoir Storage Alternative
Volume Limitations of ICS

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Entity	Maximum Annual ICS (kaf)	Maximum Cumulative Total ICS (kaf)	Maximum Annual Delivery of ICS (kaf)
Arizona	100	300	300
California	400	1,500	400
Nevada	125	300	300
Unassigned	475	950	950
Total	1,100	3,050	1,950

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24 **2.6.4 Interim Surplus Guidelines**

25 Under the Reservoir Storage Alternative, the permissive provisions of the existing ISG are
 26 terminated in 2007 and surplus determinations revert to the Quantified Surplus and Flood
 27 Control Surplus conditions during the period beginning in 2008 and ending in 2026.

1 2.7 Summary Comparison of Alternatives

2 A summary comparison of the alternatives identified and analyzed is provided in Table 2.7-1
 3 through Table 2.7-3 for Lake Powell and Lake Mead.

TABLE 2.7-1
Matrix of Alternatives

<u>Alternatives</u>	<u>Shortage Guidelines to reduce deliveries from Lake Mead</u> (elevations in feet msl)	<u>Coordinated Reservoir Operations (Lake Mead & Lake Powell)</u> (elevations in feet msl)	<u>Intentionally Created Surplus</u>	<u>Interim Surplus Guidelines for deliveries/releases from Lake Mead</u>
<u>No Action</u>	<ul style="list-style-type: none"> Determination made through the AOP process, absent shortage guidelines Reasonably represented by a two-level shortage strategy – probabilistic protection of Lake Mead elevation 1,050 and absolute protection of Lake Mead elevation 1,000 	<ul style="list-style-type: none"> Minimum objective release of 8.23 maf from Lake Powell unless storage equalization releases are required Operation at low reservoir levels reasonably represented by a 8.23 maf release from Lake Powell down to Lake Powell dead pool 	<ul style="list-style-type: none"> No guidelines for creation and delivery of ICS, r 	<ul style="list-style-type: none"> No modification or extension of the ISG which end in 2016 After 2016, determination made through the AOP process, absent surplus guidelines; reasonably represented by the spill avoidance (referred to as the 70R Strategy)
<u>Basis States</u>	<ul style="list-style-type: none"> Shortages (i.e., reduced deliveries) of 400,500 and 600 kaf from Lake Mead at elevations 1,075, 1,050, and 1,025 respectively Initiate efforts to develop additional guidelines for shortages if Lake Mead falls below elevation 1,025 (Note: includes reconsultation with Basin States) 	<ul style="list-style-type: none"> Under high reservoir conditions, minimum objective release of 8.23 maf from Lake Powell unless storage equalization release are required Under lower reservoir conditions, either reduce Lake Powell release or balance volumes depending upon elevation at Lake Powell and Lake Mead 	<ul style="list-style-type: none"> Guidelines for the creation and delivery of ICS for augmentation by extraordinary conservation, system efficiency, tributary conservation and importation of non system water Maximum total ICS in Lake Mead of 2.1 maf System assessment of 5 percent of ICS. 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026
<u>Conservation Before Shortage</u>	<ul style="list-style-type: none"> Shortages are implemented in any given year when necessary to keep Lake Mead above SNWA's lower intake at elevation 1,000 (absolute protection of elevation 1,000) 	<ul style="list-style-type: none"> Under high reservoir conditions, minimum objective release of 8.23 maf from Lake Powell unless storage equalization releases are required Under lower reservoir conditions, either reduce Lake Powell release or balance volumes depending upon 	<ul style="list-style-type: none"> Guidelines for the creation and delivery of different volumes of ICS tied to Lake Mead elevation Guidelines for the creation Storage and delivery of ICS for augmentation by extraordinary conservation ed, system 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026

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<u>Alternatives</u>	<u>Shortage Guidelines to reduce deliveries from Lake Mead</u> (elevations in feet msl)	<u>Coordinated Reservoir Operations (Lake Mead & Lake Powell)</u> (elevations in feet msl)	<u>Intentionally Created Surplus</u>	<u>Interim Surplus Guidelines for deliveries/releases from Lake Mead</u>
		elevation at Lake Powell and Lake Mead	<u>efficiency, tributary conservation and importation of system and/or non system water</u> <ul style="list-style-type: none"> • <u>_____</u> • <u>Water for environmental uses</u> • <u>Maximum total ICS greater than 4.2 maf</u> • <u>System assessment of 5 percent of ICS</u> 	
<u>Water Supply</u>	<ul style="list-style-type: none"> • <u>Release full annual entitlement amounts until Lake Mead is drawn down to dead pool (elevation 895)</u> 	<ul style="list-style-type: none"> • <u>Minimum objective release of 8.23 maf from Lake Powell unless storage equalization releases are required</u> • <u>Balancing if Lake Powell is below elevation 3,575 or Lake Mead is below elevation 1,075</u> 	<ul style="list-style-type: none"> • <u>No guidelines for creation and delivery of ICS.</u> 	<ul style="list-style-type: none"> • <u>Extension of the existing ISG through 2026</u>
<u>Reservoir Storage</u>	<ul style="list-style-type: none"> • <u>Shortages (i.e. reduced deliveries) of 600, 800, 1,000 and 1,200 kaf from Lake Mead at elevations 1,100, 1,075, 1,050, and 1,025 respectively</u> 	<ul style="list-style-type: none"> • <u>Minimum objective release of 8.23 maf from Lake Powell if Lake Powell is above elevation 3,595 unless storage equalization releases are required</u> • <u>7.8 maf release from Lake Powell between Lake Powell elevations of 3,560 and 3,595</u> • <u>Balancing below Lake Powell elevation of 3,560</u> 	<ul style="list-style-type: none"> • <u>Guidelines for the creation Storage and delivery of ICS for augmentation by extraordinary conservation ed, system efficiency, tributary conservation and importation of system and/or non system water</u> • <u>_____r</u> • <u>Maximum total ICS of 3.05 maf</u> • <u>System assessment of 10 percent of ICS.</u> 	<ul style="list-style-type: none"> • <u>Permissive provisions of existing ISG terminate in 2007, and during period from 2008 to 2026, surplus determinations are limited to Quantified and Flood Control Conditions.</u>

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SECTIONS 3.1 THROUGH 4.2.7 ARE UNCHANGED AND INTENTIONALLY OMITTED.

4.2.8 Modeling Assumptions Specific to Alternatives

Each alternative includes specific assumptions with regard to the four operational elements of the proposed federal action. Assumptions with regard to Shortage Guidelines, Coordinated Reservoir Operations, and the ISG were presented in Chapter 2 and are detailed in Appendix A. In this section, the assumptions with regard to the Creation, and Delivery of ICS, element are summarized. Details of these assumptions are presented in Appendix M.

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Modeling Assumptions Regarding Creation, and Delivery of ICS, The general concept of creation and delivery of ICS is that water users could conserve system water or non-system water and order equivalent quantities of water in Lake Mead to be delivered in non-shortage years, subject to specified losses and other conditions.

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Three alternatives assume ICS guidelines (Basin States Alternative, Conservation Before Shortage Alternative, and Reservoir Storage Alternative). Each alternative specifies the maximum amount of ICS that can be created during any year, the maximum amount of ICS that may be recovered during any year, and the maximum cumulative amount of ICS that can be available at any one time (Tables 2.3-2, 2.4 1, and 2.6-1). These volume limitations are recognized in the model as are other rules that specify under which water supply conditions ICS may be delivered.

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Under all three alternatives, it is assumed that specific losses would be applied to the ICS in Lake Mead, including a one-time system assessment, and yearly evaporation losses. At the time the ICS is created, the entity that generates the ICS is required to dedicate a percent of the ICS, to the system, defined as a system assessment, on a one-time basis to provide a water supply benefit to the system. For the Basin States Alternative and the Conservation Before Shortage Alternative, the system assessment is assumed to be five percent. For the Reservoir Storage Alternative, the system assessment is assumed to be ten percent. Additionally, ICS in Lake Mead is subject

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to annual evaporation losses which are assumed to be three percent per year. The exception to this is during Shortage conditions, when no evaporation loss is applied.

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At this time, it is unknown which entities might participate in an ICS program. Furthermore, the timing and magnitude of the creation and delivery of ICS is unknown. However, modeling assumptions with respect to the entities that might participate and their respective level of participation were needed to enable the evaluation of the ICS program and its potential effects on environmental resources, particularly to reservoir storage and river flows below Lake Mead.

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Table 4.2-3 summarizes the modeling assumptions with regard to the entities that were assumed to participate under each alternative, the activities undertaken to create ICS, and the water supply conditions under which ICS could occur. Appendix M further describes these and other key modeling assumptions. The proposed federal action is for the purpose of adopting additional operational strategies to improve the Department's annual management and operation of key Colorado River reservoirs. However, in order to assess the potential effects of the proposed federal action in this Draft EIS, certain modeling assumptions are used that display projected water deliveries to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Treaty or to represent current or future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Treaty with Mexico through the IBWC in consultation with the Department of State 1.

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Under the Conservation Before Shortage Alternative, extraordinary conservation is assumed to occur during voluntary shortage conditions but not during involuntary shortage conditions.

Notwithstanding the lack of an existing mechanism to implement such modeling assumptions, Reclamation utilized these assumptions for a number of reasons, including the following: (1) a larger volume of potential storage in Lake Mead is identified and the associated impacts are thereby analyzed; (2) the maximum potential changes to river flows below Hoover Dam are identified and the associated

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impacts analyzed; (3) the assignment of water conservation amounts to entities in the Lower Basin states in excess of amounts currently requested by each state is avoided; and (4) a program of potential future cooperation between the United States and Mexico is identified.

mechanism in place. For each alternative, the inclusion of the mechanism has the effect of decreasing the probability of shortages. Under the Basin States and Conservation Before Shortage alternatives the probability of shortage is reduced an average of about five percent from 2010 through 2026. Under the Reservoir Storage Alternative the reduction is greater, an average of 12 percent from 2010 through 2026, due to the greater amount of storage credits that are assumed to be generated under this alternative.

Table 4.2-3
Modeling Assumptions, Creation, and Delivery of ICS

Water Supply Condition		BS, CBS & RS ¹						CBS & RS	CBS	RS
		California	Arizona	Nevada			Mexico	Federal	Federal	
		Extraordin Conservati	Extraordin Conservati	Tributary Conservati	Groundwat	Desalinizati	Drop 2 Reservoir	Extraordina Conservati	Extraordin Conservat	Extraord Conserva
Flood Control Surplus	Store Deliver	No No	No No	No No	No No	No No	No No	No No	No No	No No
Quantified (70R) Surplus	Store	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
	Deliver	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Full Domestic Surplus	Store	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
	Deliver	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Normal	Store	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Deliver	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Shortage (involuntary voluntary)	Store	No	No	Yes	Yes	Yes	No	No	No ³	Yes
	Deliver	No	No	Yes	Yes	Yes	No	No	No	Yes
System Assessment		Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Period of Activity		2006-2026	2017-2026	2009-2060	2009-2060	2020-2060	Temporary	2008-2026	2008-	2008-

Notes:

1. BS = Basin States Alternative, CBS = Conservation Before Shortage Alternative, RS = Reservoir Storage Alternative
2. yes = activity assumed to occur
3. no = activity assumed to not occur
4. Beginning in 2012, Nevada is assumed to receive 40 kafy of the water conserved by the Drop 2 Reservoir during

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Normal and Surplus years until a total of 300 kaf has been credited to Nevada. Thereafter, water conserved by the Drop 2 Reservoir is assumed to be system water.

5. Under the Conservation Before Shortage Alternative, extraordinary conservation is assumed to be undertaken by the federal government during voluntary shortage conditions but not during involuntary shortage conditions
6. These modeling assumptions do not reflect policy decisions and are not intended to constitute an interpretation or application of the 1944 Treaty. They have been developed for comparison of the alternatives.

4.4.4.1 Shortage Conditions

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Sensitivity of Shortage Conditions to the Creation and Delivery of ICS. The ICS program, assumed as part of the Basin States, Conservation Before Shortage and Reservoir Storage Alternatives impacts the probability of shortage occurrences. Because a potential effect of the ICS program is an increase in the amount of water in Lake Mead, a Shortage condition is likely to occur less often with the ICS guidelines in place. Figure 4.4-7 presents the sensitivity of the occurrence of a Shortage condition to the creation and delivery of ICS by comparing these three alternatives with and without the ICS guidelines in place. For each alternative, the inclusion of ICS has the effect of decreasing the probability of Shortages. Under the Basin States and Conservation Before Shortage alternatives, the probability of Shortage is reduced an average of about five percent from 2010 through 2026. Under the Reservoir Storage alternative the reduction is greater, an average of 12 percent from 2010 through 2026, due to the greater amount of ICS that is assumed to be generated under this alternative.

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Figure 4.4-7
Involuntary and Voluntary Lower Basin Shortages
Comparison of Action Alternatives With and Without ICS
Probability of Occurrence of any Amount
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4.4.4.2 Surplus Conditions

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A Surplus condition exists in a particular year when the Secretary determines that there is sufficient mainstream water available to satisfy in excess of 7.5 maf of consumptive use in the Lower Division states. The elements of the proposed federal action include a modification and/or extension of the ISG and each alternative expresses a particular assumption for determining Surplus conditions (Chapter 2).

Probability of Surplus of Any Amount. Figure 4.4-8 compares the probabilities of Surplus conditions between the alternatives. For the No Action Alternative, the probability of surplus drops from about 40 percent to 20 percent in 2017 due to the expiration of the ISG. For the Basin States, Conservation Before Shortage and Water Supply alternatives, the probabilities of surplus are between 30 percent and 40 percent through 2026 since they assume an extension of some provisions of the ISG. Probabilities for the Basin States and Conservation Before Shortage alternatives are lower compared to the Water Supply Alternative, however, since both assume that the ISG would be modified and the more permissive provisions (e.g., Partial Domestic Surplus) would be eliminated. For the Reservoir Storage Alternative, surplus determinations are limited to Quantified Surplus (70R Strategy) and Flood Control Surplus conditions, beginning in 2008, and that assumption is reflected in the lower probabilities compared to the other action alternatives throughout the interim period. The probabilities for all alternatives converge to between 10 percent and 20 percent after the interim period since they all revert to the No Action Alternative assumptions after 2026.

Probability of Various Types of Surplus. Figure 4.4-9 presents a comparison of the probability of occurrence of the Partial Domestic Surplus condition for each alternative. The probability is zero for the Basin States, Conservation Before Shortage and Reservoir Storage alternatives since no provisions for Partial Domestic Surplus are contained in those alternatives. The probability of Partial Domestic Surplus for the No Action and the Water Supply alternatives are identical through 2016. After 2016, the probability of Partial Domestic Surplus under the No Action Alternative drops to zero since the ISG expire, while the Water Supply Alternative assumes an extension of the existing ISG through 2026.

Figure 4.4-10 presents a comparison of the probability of occurrence of the Full Domestic Surplus condition for each alternative. The probability is zero for the Reservoir Storage Alternative since it does not include a provision for this condition. The probability of Full Domestic Surplus for the No Action and Water Supply alternatives are nearly identical through 2016 since they have the same assumptions during that period, with the Water Supply Alternative continuing the Full Domestic Surplus provision through 2026. The Basin States and Conservation Before Shortage alternatives also have nearly identical probabilities through 2026 since they have the same assumptions during that period. The probabilities for the Basin States and Conservation Before Shortage alternatives are slightly higher than the No Action and Water Supply alternatives since they do not have a provision for Partial Domestic Surplus. This keeps the reservoir slightly higher increasing the chance of a Full Domestic Surplus determination.

Figure 4.4-11 presents a comparison of the probability of the Quantified (70R) Surplus condition for each alternative. The probabilities for the No Action, Basin States, Conservation Before Shortage, and Water Supply alternatives are nearly identical, with the Reservoir Storage Alternative being slightly higher since it tends to keep the reservoir at higher elevations.

Figure 4.4-12 presents a comparison of the probability of the Flood Control Surplus condition for each alternative. The probabilities for the No Action, Basin States, Conservation Before Shortage, and Water Supply alternatives are nearly identical, with the Reservoir Storage Alternative being slightly higher since it tends to keep the reservoir at higher elevations.

Sensitivity of Surplus Conditions to ~~Creation and Delivery of ICS~~. The ~~ICS program~~ assumed as part of the Basin States, Conservation Before Shortage and Reservoir Storage alternatives impacts the probability of Surplus occurrences. Because a potential effect of the ~~ICS guidelines~~ is an increase in the amount of water in Lake Mead, a Surplus condition is likely to occur more often with the ~~ICS guidelines~~ in place.

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Figure 4.4-13 presents the sensitivity of the occurrence of a Surplus condition to the creation and delivery of ICS, by comparing these three alternatives with and without the ICS program in place. For each alternative, the inclusion of the ICS program has the effect of slightly increasing the probability of a surplus. The maximum increase is about five percent under the Basin States and Conservation Before Shortage alternatives and occurs in 2011. The maximum increase is about four percent under the Reservoir Storage Alternative, occurring in 2014 and 2015.

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Figure 4.4-7
Surplus Deliveries to Lower Basin States
Comparison of Action Alternatives With and Without ICS
Probability of Occurrence
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4.4.5 Total Water Deliveries to the Lower Division States

This section presents the simulated water deliveries to the three Lower Division states. Deliveries to each state may deviate from a state's apportionment due to Surplus or Shortage conditions as well as the creation and delivery of ICS to and from Lake Mead. For the alternatives that do not include some form of ICS (the No Action Alternative and the Water Supply Alternative), water deliveries above or below a state's apportionment occur only during Surplus conditions or Shortage conditions respectively. Water deliveries under the Basin States, Conservation Before Shortage and Reservoir Storage alternatives in excess of a state's apportionment can occur due to a Surplus conditions as well as when ICS is delivered. Also under these alternatives, water deliveries less than a state's apportionment can occur due to a Shortage condition as well as when water is being created within that state under the ICS guidelines. In the following sections, the modeled water deliveries are presented with and without the ICS program to facilitate understanding of the differences.

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4.4.5.1 Total Water Deliveries to Arizona

This section presents the simulated water deliveries to Arizona under the No Action Alternative and the action alternatives.

No Action Alternative. Water deliveries to Arizona are projected to fluctuate throughout the 53-year period of analysis reflecting variations in hydrologic conditions. The 90th, 50th and 10th percentile ranking of modeled water deliveries to Arizona under the No Action Alternative are presented in Figure 4.4-16. Since the No Action Alternative does not include ~~an ICS program~~, deviations from annual deliveries of 2.8 maf are due to Shortage and Surplus conditions.

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The 90th percentile line generally coincides with Arizona's depletion schedule during full surplus water supply conditions. The exceptions to this are the periods from 2008 through 2014 and 2055 through 2060. As indicated by this 90th percentile line, the probability that the No Action Alternative would provide Arizona's full surplus depletion schedule is at least 10 percent for the period 2015 through 2055.

The 50th percentile line represents the median annual depletion values. This 50th percentile line generally coincides with Arizona's projected depletion schedule under Normal conditions through year 2028. After 2028, the median annual Arizona modeled depletion values fluctuate between 2.41 maf and 2.80 maf.

The 10th percentile line represents the depletion values above which 90 percent of the annual depletion values were observed. The 10th percentile annual depletion values were 2.80 maf from 2008 through 2010, approximately 2.4 maf from 2011 through 2037. After 2037, the 10th percentile annual depletion values fluctuated between 2.17 maf and 2.33 maf.

Comparison of Action Alternatives Without ~~ICS Guidelines~~ to No Action Alternative. Figure 4.4-17 provides a comparison of the cumulative distribution of Arizona's depletions under the action alternatives without the ~~ICS Guidelines~~ to those of the No Action Alternative during the interim period (years 2008 through 2026). The results presented in Figure 4.4-17 can be used to compare how often Arizona

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might expect deliveries above and below its 2.8 mafy apportionment due to Surplus and Shortage conditions under the different alternatives.

Figure 4.4-17
Arizona Modeled Annual Depletions
Comparison of Action Alternatives (Without ICS Guidelines) to No Action Alternative
Years 2008 through 2026
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Figure 4.4-18 provides a similar comparison of the cumulative distribution of water deliveries to Arizona under the action alternatives without the ICS Guidelines to those of the No Action Alternative for the 34-year period (years 2027 through 2060) that would follow the interim period.

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Sensitivity of Total Water Deliveries to Arizona to Creation and Delivery of ICS. Arizona water deliveries under the Basin States, Conservation Before Shortage, and Reservoir Storage alternatives are impacted by the modeling assumptions made to postulate potential future participation in an ICS program (Appendix M). This section isolates the impacts of those assumptions on Arizona's modeled depletions.

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Figure 4.4-18
Arizona Modeled Annual Depletions
Comparison of Action Alternatives (Without ICS Guidelines) to No Action Alternative
Years 2027 through 2060
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Figure 4-4.19 provides a comparison of the cumulative distribution of Arizona's depletions under the Basin States, Conservation Before Shortage, and Reservoir Storage alternatives, with and without the ICS program in place during the interim period. With the ICS program in place, deliveries of approximately 2.7 mafy are due

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to the storage of conserved water. With the ICS program removed, occurrences of deliveries less than 2.8 mafy or greater than 2.8 mafy reflect only Shortage or Surplus conditions respectively. These observations mirror the effects of the ICS program on the probability of voluntary and involuntary total Lower Basin Shortage and Surplus Conditions presented in the previous subsection.

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Figure 4-4.20 provides a comparison of the cumulative distribution of Arizona's depletions under the action alternatives that include the creation and delivery of ICS, with and without the ICS program in place for the 34-year period that would follow the interim period. There is almost no effect of the ICS program during these years as it is assumed only ICS previously created may be delivered during this period.

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(MAKE CONFORMING CHANGES REGARDING DELIVERIES TO CALIFORNIA, NEVADA AND MEXICO DESCRIBED IN SECTIONS 4.4.5.2 THROUGH 4.4.6)

4.4.5.2 Total Water Deliveries to California

4.4.5.3 Total Water Deliveries to Nevada

4.4.6 Water Deliveries to Mexico

4.4.8 Summary

The following conclusions were drawn from the analyses of water deliveries.

4.4.8.1 Normal Conditions

All of the action alternatives improve water supply conditions during the interim period relative to the No Action Alternative, improve the probability that normal deliveries will be met, and reduce the probability that Shortage condition deliveries will occur. The differences between the action alternatives and the No Action

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Alternative, in terms of the probability of occurrence for Normal conditions water supply deliveries, diminish after 2027 and converge by about 2038.

4.4.8.2 Surplus Conditions

The Water Supply Alternative exhibits the same probability of Surplus condition deliveries as the No Action Alternative (between about 30 to 40 percent) between 2008 and 2016 due to the provisions for the Partial Domestic Surplus as provided in the ISG. The ISG provisions terminate under the No Action Alternative in 2016. These conditions are retained in the Water Supply Alternative through 2026 and therefore this alternative consistently provides the highest probability of Surplus condition deliveries during the interim period. The Reservoir Storage Alternative exhibits the lowest probabilities (between about 10 to 20 percent) during the interim period because surplus determinations are limited to Quantified and Flood Control Surplus conditions beginning in 2008. The surplus provisions under the Basin States and Conservation Before Shortage alternatives are similar and the probability of Surplus conditions between 2010 and the probability of occurrence through 2016 is slightly less than under the No Action • Alternative due to the absence of the Partial Domestic Surplus provision in these two alternative. After the end of the interim period in 2026 the probability for all alternatives converges to between 10 and 20 percent.

The ~~ICS program~~ assumed as part of the Basin States, Conservation Before Shortage and Reservoir Storage alternatives has the effect of increasing the occurrence of a Surplus Condition. The maximum increase observed is about four to five percent occurring in one to two years.

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4.4.8.3 Shortage Conditions

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The ~~ICS program~~ assumed as part of the Basin States, Conservation Before Shortage, and Reservoir Storage alternatives has the effect of decreasing the occurrence of

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shortages. The greatest reduction during the interim period occurs in the Reservoir Storage Alternative (about 12 percent) as it is assumed that a larger amount of **ICS is created** under this alternative. The Conservation Before Shortage Alternative is assumed to **create a larger amount of ICS** than the Basin States Alternative, resulting in a shortage probability of about two to three percent less during the interim period.

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5.1.29 Cumulative Impacts by Resource

5.1.29.1 Hydrologic Resources and Water Delivery

SNWA's development of pre-BCPA water rights on the Virgin River and Muddy River, and the development of Coyote Spring Valley groundwater could potentially result in increased flows into Lake Mead, and increased deliveries from Lake Mead, under the **ICS Guidelines** element of the proposed federal action. These hydrologic effects were included in the modeling conducted for this EIS, and these impacts are already included in the analysis in Sections 4.3 and 4.4. Similarly, the increase in return flows to Lake Mead for the northern Nevada groundwater projects were also included in the hydrologic analysis.

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The LCR MSCP would not result in any cumulative effects because it would not alter water system operations.

The Drop 2 Reservoir Project would result in a reduction in over-deliveries to Mexico. These hydrologic effects were included in the hydrologic modeling for Lake Mead conducted for this EIS, and any resulting impacts are already included in the analysis in Sections 4.3 and 4.4.

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Appendix M

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Modeling Assumptions:

Creation and Delivery of Intentionally Created Surplus

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Three of the action alternatives assume the creation and delivery of intentionally created surplus (“ICS”) derived from extraordinary conservation system efficiency projects, tributary conservation and importation of non-system water (the Basin States, Conservation Before Shortage and Reservoir Storage alternatives). This appendix describes the modeling assumptions used in the CRSS regarding the activities assumed to generate ICS, and the conditions under which the ICS is assumed to be created and delivered.

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M.2.3 Examples of ICS Accounting	M-3	Formatted: Font: 12 pt
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ICS Creation and Delivery	M-4	Formatted: Font: 12 pt
Table M-3 Assumed ICS Creation and Delivery Schedules for Conservation		Deleted: Storage
Activities Under the Basin States Alternative ¹	M-6	Deleted: Mechanism
Table M-4 Conservation Before Shortage Alternative Volume Limitations		Formatted: Font: 12 pt
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Table M-5 Assumed ICS Creation and Delivery Schedules for		Deleted: Mechanism
Other Conservation Activities Under the Conservation Before		Formatted: Font: 12 pt
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Table M-6 Reservoir Storage Alternative Volume Limitations of		Formatted: Font: 12 pt
ICS Creation and Delivery	M-11	Formatted: Font: 12 pt
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Activities Under the Reservoir Storage Alternative ¹	M-12	Deleted: Storage
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System and Non-System ICS	M-13	Deleted: Storage
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M.1 Introduction

At this time, it is unknown which entities might participate in the Intentionally Created Surplus (“ICS”) program that allows the creation, and delivery of ICS derived from extraordinary conservation, system efficiency projects, tributary conservation or importation of non-system water. Furthermore, the timing and magnitude of the creation, and delivery of ICS, is unknown. However, modeling assumptions with respect to the entities that might participate and their respective level of participation were needed to enable the evaluation of the ICS program and its potential effects on environmental resources, particularly to reservoir storage and river flows below Lake Mead.

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The proposed federal action is for the purpose of adopting additional operational strategies to improve the Department's annual management and operation of key Colorado River reservoirs. However, in order to assess the potential effects of the proposed federal action in this Draft EIS, certain modeling assumptions are used that display projected water deliveries to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Treaty or to represent current or future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Treaty with Mexico through the IBWC in consultation with the Department of State. ¹

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For two of the action alternatives (the Conservation Before Shortage Alternative and the Reservoir Storage Alternative), it was assumed that ICS would be created and used for environmental purposes. These modeling assumptions were utilized in this Draft EIS in order to analyze the potential impacts to environmental resources of the ICS program, particularly with regard to reservoir elevations and river flow impacts. The use of these modeling assumptions does not represent any determination by Reclamation as to whether, or how, these releases could be made under current administration of the river.

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M.2 General Modeling Assumptions

Three alternatives assume the creation and delivery of ICS, (the Basin States, Conservation Before Shortage and Reservoir Storage alternatives). This section explains the general modeling assumptions

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regarding how ICS is created, and delivered within the CRSS model. Examples of the accounting for ICS within the model are also presented below.

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¹ Notwithstanding the lack of an existing mechanism to implement such modeling assumptions, Reclamation utilized these assumptions for a number of reasons, including the following: (1) a larger volume of potential storage in Lake Mead is identified, (2) the maximum potential impacts on river flows below Hoover Dam are identified, (3) the alternative proponent's recommendations as to participating entities and levels of participation are modeled, (4) the arbitrary assignment of water conservation amounts to entities in the Lower Basin states is avoided, and (5) a program of potential future cooperation between the United States and Mexico is identified.

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M.2.1 Creation of ICS

When ~~ICS is~~ created, the model assumes either a delivery from Lake Mead is decreased or a new gain to the system is introduced, resulting in an increase to Lake Mead storage. If the reduced delivery is located downstream of Lake Mead, creation of the ~~ICS~~ results in a reduction in the release from Lake Mead and river flow downstream.

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At the beginning of each year, the model assumes that ~~ICS~~ will be generated based on annual schedules and that the scheduled amount does not change throughout the year. The ability to ~~create ICS~~ in Lake Mead is assumed to be in effect from 2008 through 2026 (i.e., ~~ICS~~ is assumed to not be ~~created~~ in Lake Mead after 2026).

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The activity resulting in the creation of ~~ICS~~ is assumed to originate from a point on the river located furthest downstream in order to evaluate the maximum effects of the ~~creation and delivery of ICS~~ on river flows. In general, ~~ICS created~~ for use by a particular state is assumed to be ~~created~~ by an entity within that state that had an annual depletion schedule sufficiently large enough to accommodate the reductions. In the case of the Conservation Before Shortage and Reservoir Storage alternatives, which assume ~~creation and delivery of ICS~~ for Mexico and the federal government, these activities were assumed to occur within Mexico because this is the last major user in the lower part of the river and again, this permitted ~~evaluation~~ of the potential effects on river flow reductions.

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A one-time system assessment is assumed to be dedicated to the system upon the creation of ~~ICS~~. The system assessment is assumed to be five percent of the ~~volume of ICS created~~ for the Basin States and Conservation Before Shortage alternatives. For the Reservoir Storage Alternative, the system assessment is assumed to be ten percent of the volume of ~~ICS created~~. For example, if an entity wishes to ~~create~~ 100 kaf of ~~ICS~~, then the ~~ICS~~ that must be ~~created~~ becomes: $100 \text{ kaf} / (1 \text{ system assessment})$.

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The model assumes that the accounting of ~~ICS~~ occurs annually, at the end of the year. ~~ICS~~ in Lake Mead is assumed to be subject to the following rules:

- An annual 3 percent deduction for evaporation. The deduction occurs at the end of the year and is based on the available ~~ICS~~ at the beginning of the year.
- No evaporation deductions occur during Shortage conditions.
- In the event of a flood control release, ~~ICS is~~ eliminated and stored water reverts to the system.
- The total volume of ~~ICS~~ in Lake Mead at any given time is not included in the determination of a Quantified Surplus using the 70R Strategy.
- The amount of ~~ICS~~ that may be generated in a single year is constrained by assumed maximum annual and maximum total limits. These assumed limits vary by alternative and are presented in Section M.3.

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M.2.2 Delivery of ICS

When ~~ICS is~~ delivered from Lake Mead, the model assumed that a delivery from Lake Mead was increased for that year, resulting in a decrease in Lake Mead storage. If the increased delivery is located downstream of Lake Mead, delivery of

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the **ICS**, results in an increase in the release from Lake Mead and river flow downstream.

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At the beginning of each year, the model assumes that **ICS** will be delivered based on annual schedules and that the scheduled delivery amount does not change throughout the year. Although the ability to **create ICS** in Lake Mead is assumed to be in effect from 2008 through 2026 (i.e., **ICS** may not be **created** in Lake Mead after 2026), a 10-year period (from 2027 through 2036) was assumed for entities to take any **ICS** remaining after the end of the interim period.

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After 2026, some conservation activities assumed to be undertaken by Nevada are assumed to continue through 2060 (tributary conservation, groundwater return flows, and desalinization described further in Section M.3.1). The model assumes delivery of that water to Nevada in the year that the conservation occurs.

M.2.3 Examples of **ICS** Accounting

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Table M-I provides an example of **ICS** accounting in CRSS. A "put" refers to the creation of **ICS**. A "take" is the delivery of **ICS**. Although most calculations in CRSS occur on a monthly basis, the model calculates available **ICS** annually, at the end of the year. At the end of year n, the balance of **ICS** is determined as,

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$$Balance_n = Balance_{n-1} + Put(1 - Assessment\%) - Take - Evap\%(Balance_{n-1})$$

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Table M-1
Example of **ICS** Accounting (af)

Year	Put	Assessment ¹	Put Adjusted for Assessment	Requested Take	Actual Take	Evaporation	Balance
1	0	0	0	0	a	a	0
2	200,000	10,000	190,000	0	0	0	190,000
3	100,000	5,000	95,000	50,000	50,000	5,700	229,300
4	0	0	a	200,000	200,000	6,879	22,421
5	0	0	0	50,000	21,748	673	0

¹ Assuming a system assessment of five percent

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Year 1: The **ICS** balance is zero and there is no activity for this year.

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Year 2: A put of 200 kaf is scheduled for this year. There is a 200 kaf reduction in delivery for this year. Assuming a system assessment of 5 percent, 190 kaf of **ICS** is generated for this year and 10 kaf (five percent of 200 kaf) is credited to the system. There are no takes scheduled. Evaporation is counted as 3 percent of the previous year's balance. Because the balance in Year 1 is 0, there is no evaporation loss deducted in Year 2.

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Year 3: Applying the scheduled put and take values to the equation above a balance of 229,300 is created.

$$229,300 = 190,000 + 100,000(1 - 0.05) - 50,000 - 0.03(190,000)$$

Year 4: Applying the scheduled put and take values to the equation above a balance of 22,421 is created.

$$22,421 = 229,300 + 0(1 - 0.05) - 200,000 - 0.03(229,300)$$

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Year 5: The requested take is higher than the available **ICS**. Therefore the actual take is constrained by the available credits to be 21,748 af.

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M.3 Modeling Assumptions Specific to Alternatives

Modeling assumptions with respect to the entities that might participate and their respective level of participation were needed to enable the evaluation of the potential effects of the **ICS program** for each alternative. These assumptions include the maximum amount of **ICS** that may be created during any year, the maximum amount of **ICS** that may be delivered during any year, and the maximum total amount of **ICS** that may be available at anyone time. In addition, assumptions with regard to the timing and magnitude of the creation and delivery of **ICS** are needed. The assumptions made for each alternative are detailed in the following sections.

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M.3.1 Basin States Alternative

As discussed in Section 2.3, the Basin States Alternative assumes the levels of participation as shown in Table M-2.

Table M-2
Basin States Alternative Volume limitations on Creation and Delivery of **ICS**

Entity	Maximum Annual Creation of ICS (kaf)	Maximum Cumulative Total ICS (kaf)	Maximum Annual Delivery of ICS (kaf)
Arizona	100	300	300
California	400	1,500	400
Nevada	125	300	300
Total	625	2,100	1,000

These volume limitations are recognized in CRSS as are other rules that specify under which water supply conditions ICS may be created or delivered, as summarized in Section M.3.4. The schedules for Arizona, California and Nevada were provided by the Arizona Department of Water Resources (ADWR), the Metropolitan Water District of Southern California (MWD) and the Southern Nevada Water Authority (SNW A), respectively, and are detailed below.

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M.3.1.1 Arizona

In order to analyze the maximum effects on river flows, the model assumes that Arizona ICS is generated through extraordinary conservation by the Yuma County Water Users Association and are delivered to CAP. According to the creation and delivery schedules provided by ADWR, the creation of ICS begins in 2017, as shown in Table M-3. It was assumed that ICS is created and delivered only during otherwise Normal conditions.

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M.3.1.2 California

In order to analyze the maximum effects on river flows, the model assumes that California ICS is created through extraordinary conservation by the Imperial Irrigation District and is delivered to MWD. Schedules for the creation and delivery of ICS were provided by MWD. Ninety-nine (99) schedules were provided, corresponding to the 99 hydrologic traces used in the ISM simulations (Section 4.2). As an example, one of these schedules is presented in Table M-3. In 2008 California is assumed to begin with an ICS balance of 100 kaf due to pilot programs in place in 2006 and 2007. It was assumed that ICS is created and delivered only during otherwise Normal conditions.

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M.3.1.3 Nevada

As provided by SNW A, four different conservation activities are assumed to be undertaken by Nevada to generate ICS. Each activity is subject to different assumptions as to when ICS may be created, and used as described below. The schedules provided by SNW A are shown in Table M-3.

Tributary Conservation. It was assumed that water from extraordinary conservation on the Muddy and Virgin Rivers would generate ICS. This activity is assumed to be in place during the period from 2009 through 2060. In the CRSS model, a gain to Lake Mead was introduced as the source of these ICS and it is assumed that delivery is taken by SNW A from Lake Mead. In general, it was assumed that ICS may be created, during all water supply conditions (except the Flood Control Surplus condition) and may be delivered during Normal and Shortage conditions. However, it was also assumed that SNW A would take ICS during a Full Domestic Surplus condition if needed to avoid exceeding the maximum cumulative total amount of ICS. After 2026, it is assumed that the tributary conservation ICS would continue to be created each year and would be delivered, in the same year. The system assessment is assumed to be in effect through 2060.

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Groundwater. SNW A return flows originating from Nevada groundwater development projects are assumed to be available during the period from 2009 through 2060. In the CRSS model, a gain to Lake Mead was introduced as the source of groundwater and it is assumed that delivery is taken by SNW A from Lake Mead. It was assumed that groundwater return flows are stored and delivered only during Normal and Shortage conditions. After 2026, it is assumed that the groundwater return flows would continue to be created each year and would be used in the same year. The system assessment for groundwater is assumed to be in effect through 2060.

Desalinization. SNW A is assumed to receive water generated from desalinization beginning in 2012 through 2060. To account for water created through desalinization, a gain was introduced to the system below Imperial Dam. Desalinization water is assumed to be generated and taken during all water supply conditions except during Flood Control Surplus conditions. After 2026, it is assumed that the desalinization water would continue to be created each year and would be **delivered**, in the same year. The system assessment for desalinization is assumed to be in effect through 2060.

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Drop 2 Reservoir. As discussed in Section 4.2.7, the proposed Drop 2 Reservoir is assumed to be in operation beginning in 2010 and to conserve an average of 69 kafy, reducing the average over-delivery to Mexico from 77 kafy to 8 kafy under all alternatives. Under the three action alternatives that assume **the creation and delivery of ICS**, SNW A is assumed to **create and receive delivery of ICS** conserved by the Drop 2 Reservoir beginning in 2013 during Surplus (excluding the Flood Control Surplus condition) and Normal conditions. A system assessment is not applied to Drop 2 Reservoir **ICS**. Nevada takes **delivery of Drop 2 Reservoir ICS** at a maximum rate of 40 kaf each year until a total of 300 kaf has been taken. Thereafter, water conserved by the Drop 2 Reservoir is assumed to be system water.

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Table M-3
 Assumed ICS Creation and Delivery Schedules for Conservation Activities Under the Basin States Alternative!

YEAR	Arizona		California ²		Tributary		Nevada		De
	Extraordinary Conservation (af)		Extraordinary Conservation (af)		Conservation (af)		Groundwater (af)		
	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER	
2008	0	0	400,000	0	0	0	0	0	
2009	0	0	400,000	0	30,000	5,000	13,000	13,000	
2010	0	0	400,000	0	30,000	5,000	13,000	13,000	
2011	0	0	400,000	0	30,000	5,000	13,000	13,000	
2012	0	0	400,000	0	30,000	5,000	13,000	13,000	
2013	0	0	400,000	0	30,000	5,000	13,000	13,000	
2014	0	0	100,000	0	30,000	5,000	13,000	13,000	
2015	0	0	0	0	30,000	5,000	13,000	13,000	
2016	0	0	300,000	0	30,000	5,000	13,000	13,000	
2017	100,000	0	400,000	0	30,000	5,000	13,000	13,000	
2018	100,000	0	300,000	0	30,000	5,000	13,000	13,000	
2019	100,000	0	200,000	0	30,000	5,000	13,000	13,000	
2020	0	300,000	0	100,000	30,000	5,000	80,000	80,000	75
2021	100,000	50,000	0	100,000	30,000	5,000	80,000	80,000	75
2022	100,000	0	0	200,000	30,000	5,000	80,000	80,000	75
2023	100,000	0	0	0	30,000	5,000	80,000	80,000	75
2024	50,000	0	100,000	0	30,000	5,000	80,000	80,000	75

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Table M-3
Assumed ICS Creation, and Delivery Schedules for Conservation
Activities Under the Basin States Alternative

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YEAR	Arizona		California'		Nevada					
	Extraordinary'		Extraordinary'		Tributary		Groundwater (af)	Desaliniz	Desaliniz	
	Conservation (all)	Conservation (all)	Conservation (af)	Conservation (af)	Conservation (af)	Conservation (af)				
CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER	
2025	0	50,000	0	100,000	30,000	30,000	80,000	80,000	75,000	75,000
2026	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2027	0	50,000	0	300,000	30,000	30,000	80,000	80,000	75,000	75,000
2028	0	50,000	0	200,000	30,000	30,000	80,000	80,000	75,000	75,000
2029	0	50,000	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2030	0	50,000	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2031	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2032	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2033	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2034	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2035	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2036	0	50,000	0	400,000	30,000	30,000	80,000	80,000	75,000	75,000
2037	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2038	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2039	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2040	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2041	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2042	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2043	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2044	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2045	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2046	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2047	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2048	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2049	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2050	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2051	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2052	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2053	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2054	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2055	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2056	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2057	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2058	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
2059	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000

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2060	0	0	0	0	30,000	30,000	80,000	80,000	75,000	75,000
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¹Actual modeled delivery amounts may be less depending on availability, system assessment and evaporation losses.

²Reclamation was provided 99 distinct creation and delivery schedules by MWD to be used with the Index Sequential Method. The schedule in this table is an example of one schedule corresponding to one hydrologic sequence.

M.3.2 Conservation Before Shortage

As discussed in Section 2.4, the Conservation Before Shortage Alternative assumes the levels of participation as shown in Table M-4.

Table M-4
Conservation Before Shortage Alternative Volume limitations of ICS Creation and Delivery

Entity	Maximum Annual Storage of ICS (kaf)	Maximum Cumulative Total ICS (kaf)	Maximum Annual Delivery of ICS or (kaf)
Arizona	100	300	300
California	400	1,500	400
Nevada	125	300	300
Unassigned	825	2100	600
Total	1,450	4,200	1,600

These volume limitations are recognized in CRSS as are other rules that specify under which water supply conditions ICS may be created or delivered as summarized in Section M.3.4. The schedules for the Conservation Before Shortage Alternative for the participation of the Lower Division states were assumed to be identical to those used in the Basin States Alternative (Table M-3). The schedules for the expanded participation by other entities (Unassigned in Table M-4) were provided by the NGOs and are detailed below.

The Conservation Before Shortage proposal includes voluntary, compensated reductions in water use prior to the imposition of involuntary shortages (Section 2.4). To model this proposal, it was assumed that ICS of 400, 500 and 600 kaf would be created when Lake Mead was at specific elevations within the range of 1,075 feet msl and 1,025 feet msl, as described in Section 2.4.3. For modeling purposes and to maximize river flow effects, this ICS were assumed to be created via extraordinary conservation within Mexico. The system assessment is applied when this ICS is created and it was assumed that this ICS would remain in Lake Mead and would be counted toward the replacement of the bypass flows to the Cienega de Santa Clara in Mexico.

The model maintains an accounting for the bypass flow replacement. In each year, the model releases 109 kaf (Section 4.2.6) for the bypass flows and deducts that amount from the bypass flow replacement account. Any deficit that accumulates in the account is tracked and offset at a later time when Lake Mead is below elevation 1,075 feet msl and ICS is created. The maximum positive volume for the account is assumed to be 1.5 maf and any additional ICS that is

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~~created~~, above that amount is assumed to convert to system water. Evaporation losses are applied to any positive balance in the account at the end of each year.

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The NGOs also postulated that ~~ICS~~ would be ~~created~~ by Mexico and be used for the purpose of environmental flows in Mexico. ~~This ICS~~ would be subject to the system assessment and evaporation losses and would be ~~created~~, and delivered during Surplus or ~~otherwise~~ Normal conditions, but not during Flood Control Surplus or Shortage conditions. Two sets of environmental flows are assumed to occur. The first are pulse flows to the Colorado River Delta flowing into the Gulf of California, assumed to occur every five years after the last flood control release, with the first flow scheduled for 2012 (referred to as "Delta Pulse Flows" in Table M-5). Each year, ~~ICS~~ of 50 kaf ~~is~~ assumed to be ~~created~~, Delta pulse flows are of magnitude 250 kaf; however, in the fifth year, ~~ICS~~ of 50 kaf is assumed to be ~~created~~, and delivered in the same year and a system assessment is not applied. The model assumes that Delta pulse flows would flow past the NIB and are counted as part of Mexico's delivery. The second set of environmental flows (termed "Other Environmental Flows Below NIB" in Table M-5) is assumed also to occur every five years, with the first scheduled for 2010 at a volume of 80 kaf. Each year 40 kaf of ~~ICS~~ is scheduled to be created for these flows. After 2010, these flows increase to a volume of 200 kaf and similar to the Delta pulse flows, in the fifth year, ~~ICS~~ of 40 kaf is assumed to be ~~created~~ and delivered in the same year. The model also assumes that this water would flow past the NIB and is counted as part of Mexico's delivery.

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The NGOs postulated an additional activity to create 100 kaf of ~~ICS~~ to be ~~delivered~~ for environmental uses within the United States (termed "Additional Environmental Uses" in Table M-S). It was assumed that ~~this ICS~~ would be created and delivered during ~~otherwise~~ Normal and Surplus conditions and would be subject to the system assessment and evaporation losses. For modeling purposes and to maximize river flow effects, this ~~ICS~~ was also assumed to be generated via extraordinary conservation within Mexico.

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The assumed schedules for these activities are presented in Table M-5.

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Table M-5
Assumed ICS Creation and Delivery Schedules for
Other Conservation Activities Under the Conservation Before Shortage Alternative¹

Year	Delta Pulse Flows		Other Environmental Flows Below NIB		Additional Environmental Uses	
	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER
2008	52,632	0	42,105	0	105,263	100,000
2009	52,632	0	42,105	0	105,263	100,000
2010	52,632	0	0	80,000	105,263	100,000
2011	52,632	0	42,105	0	105,263	100,000
2012	50,000	250,000	42,105	0	105,263	100,000
2013	52,632	0	42,105	0	105,263	100,000
2014	52,632	0	42,105	0	105,263	100,000
2015	52,632	0	40,000	200,000	105,263	100,000
2016	52,632	0	42,105	0	105,263	100,000
2017	50,000	250,000	42,105	0	105,263	100,000
2018	52,632	0	42,105	0	105,263	100,000
2019	52,632	0	42,105	0	105,263	100,000
2020	52,632	0	40,000	200,000	105,263	100,000
2021	52,632	0	42,105	0	105,263	100,000
2022	50,000	250,000	42,105	0	105,263	100,000
2023	52,632	0	42,105	0	105,263	100,000
2024	52,632	0	42,105	0	105,263	100,000
2025	52,632	0	40,000	200,000	105,263	100,000
2026	52,632	0	42,105	0	105,263	100,000
2027	50,000	250,000	0	0	0	100,000
2028	0	0	0	0	0	100,000
2029	0	0	0	0	0	100,000

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**Table M-5
Assumed ICS Creation and Delivery Schedules for
Other Conservation Activities Under the Conservation Before Shortage Alternative¹**

Year	Delta Pulse Flows		Other Environmental Flows Below NIB		Additional Environmental Uses	
	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER
2030	0	0	0	200,000	0	100,000
2031	0	0	0	0	0	100,000
2032	0	250,000	0	0	0	100,000
2033	0	0	0	0	0	100,000
2034	0	0	0	0	0	100,000
2035	0	0	0	200,000	0	100,000
2036	0	0	0	0	0	100,000
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0
2042	0	0	0	0	0	0
2043	0	0	0	0	0	0
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
2058	0	0	0	0	0	0
2059	0	0	0	0	0	0
2060	0	0	0	0	0	0

Creation amounts are adjusted for system assessment. Actual modeled delivery amounts may be less depending on availability and evaporation losses.

M.3.3 Reservoir Storage Alternative

As discussed in Section 2.6, the Reservoir Storage Alternative assumes the levels of participation as shown in Table M-6.

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Table M-6
Reservoir Storage Alternative Volume Limitations of ICS Creation, and Delivery

Entity	Maximum Annual Creation of ICS (kaf)	Maximum Cumulative Total Storage of ICS (kaf)	Maximum Annual Delivery of ICS (kaf)
Arizona	100	300	300
California	400	1,500	400
Nevada	125	300	300
Unassigned	475	950	950
Total	1,100	3,050	1,950

These volume limitations are recognized in CRSS as are other rules that specify under which water supply conditions ICS may be created or delivered, as summarized in Section M.3.4. The schedules for the Reservoir Storage Alternative for the participation of the Lower Division states were assumed to be identical to those used in the Basin States Alternative (Table M-3). The schedules for the expanded participation by other entities (Unassigned in Table M-6) are detailed below.

Some of the activities assumed in the Conservation Before Shortage Alternative were also assumed for the Reservoir Storage Alternative. In particular, the schedules for the "Delta Pulse Flows" and "Other Environmental Flows Below NIB" (Table M-5) were assumed to be identical. Other additional activities were assumed for the Reservoir Storage Alternative in order to assess the potential effects of the creation and delivery of ICS, with limits different from either the Basin States or the Conservation Before Shortage alternatives.

During all water supply conditions except the Flood Control Surplus condition, ICS is assumed to be created to replace bypass flows to the Cienega de Santa Clara in Mexico. As noted in Section 4.2.6, the model assumes that 109 kafy is released from Lake Mead for the bypass flows. Because the system assessment for the Reservoir Storage Alternative is assumed to be 10 percent, ICS of 121 kafy is assumed to be created each year to replace the bypass flows (termed "Bypass Flow Replacement" in Table M-7). For modeling purposes and to maximize river flow effects this ICS was assumed to be created via extraordinary conservation within Mexico.

It was also assumed that ICS of 55 kafy would be created for environmental consumptive uses (in the amount of 50 kafy after the system assessment) in the United States (termed "Environmental Uses" in Table M-7). This ICS is assumed to be created and delivered during all conditions (except the Flood Control Surplus condition). For modeling purposes and to maximize river flow effects this water was assumed to be created via extraordinary conservation within Mexico.

During otherwise Normal and Surplus conditions only, an additional 150 kafy of ICS is assumed to be created each year with a delivery of 100 kafy (termed "Additional Conservation Activities" in Table M-7). For modeling purposes and to maximize river flow effects, this ICS was assumed to be created via extraordinary conservation within Mexico and delivered to SNW A at Lake Mead.

The assumed schedules for these activities are shown in Table M-7.

M.3.4 Summary of Assumed ICS Creation, and Delivery Activities

A summary of the activities assumed to occur under the various water supply conditions (Surplus, otherwise Normal, and Shortage conditions) for each alternative is presented in Table M-8.

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Table M-7
Assumed ICS Creation, and Delivery Schedules for Other Conservation Activities Under the Reservoir Storage Alternative

YEAR	Environmental Uses		Bypass Flow Replacement		Additional Conservation Activities	
	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER
2008	55,555	50,000	121,111	109,000	150,000	100,000
2009	55,555	50,000	121,111	109,000	150,000	100,000
2010	55,555	50,000	121,111	109,000	150,000	100,000
2011	55,555	50,000	121,111	109,000	150,000	100,000
2012	55,555	50,000	121,111	109,000	150,000	100,000
2013	55,555	50,000	121,111	109,000	150,000	100,000
2014	55,555	50,000	121,111	109,000	150,000	100,000
2015	55,555	50,000	121,111	109,000	150,000	100,000
2016	55,555	50,000	121,111	109,000	150,000	100,000
2017	55,555	50,000	121,111	109,000	150,000	100,000
2018	55,555	50,000	121,111	109,000	150,000	100,000
2019	55,555	50,000	121,111	109,000	150,000	100,000
2020	55,555	50,000	121,111	109,000	150,000	100,000
2021	55,555	50,000	121,111	109,000	150,000	100,000
2022	55,555	50,000	121,111	109,000	150,000	100,000
2023	55,555	50,000	121,111	109,000	150,000	100,000
2024	55,555	50,000	121,111	109,000	150,000	100,000
2025	55,555	50,000	121,111	109,000	150,000	100,000
2026	55,555	50,000	121,111	109,000	150,000	100,000
2027	0	50,000	0	109,000	0	100,000
2028	0	50,000	0	109,000	0	100,000
2029	0	50,000	0	109,000	0	100,000
2030	0	50,000	0	109,000	0	100,000
2031	0	50,000	0	109,000	0	100,000
2032	0	50,000	0	109,000	0	100,000
2033	0	50,000	0	109,000	0	100,000
2034	0	50,000	0	109,000	0	100,000
2035	0	50,000	0	109,000	0	100,000
2036	0	50,000	0	109,000	0	100,000
2037	0	0	0	0	0	0
2038	0	0	0	0	0	0
2039	0	0	0	0	0	0
2040	0	0	0	0	0	0
2041	0	0	0	0	0	0
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Table M-7
Assumed ICS Creation and Delivery Schedules for Other Conservation Activities Under the Reservoir Storage Alternative

YEAR	Environmental Uses		Bypass Flow Replacement		Additional Conservation Activities	
	CREATE	DELIVER	CREATE	DELIVER	CREATE	DELIVER
2044	0	0	0	0	0	0
2045	0	0	0	0	0	0
2046	0	0	0	0	0	0
2047	0	0	0	0	0	0
2048	0	0	0	0	0	0
2049	0	0	0	0	0	0
2050	0	0	0	0	0	0
2051	0	0	0	0	0	0
2052	0	0	0	0	0	0
2053	0	0	0	0	0	0
2054	0	0	0	0	0	0
2055	0	0	0	0	0	0
2056	0	0	0	0	0	0
2057	0	0	0	0	0	0
2058	0	0	0	0	0	0
2059	0	0	0	0	0	0
2060	0	0	0	0	0	0

Creation amounts are adjusted for system assessment. Actual modeled delivery amounts may be less depending on availability and evaporation losses.

Table M-8
Modeling Assumptions for Creation and Delivery of ICS

Water Supply Condition		BS, CBS & RS ¹							CBS & RS	CBS	Federal
		California	Arizona	Nevada			Mexico				
		Extraordinary Conservation	Extraordinary Conservation	Tributary Conservation	Groundwater	Desalinization	Drop 2 Reservoir ⁴	Extraordinary Conservation	Extraordinary Conservation	Extraordinary Conservation	
Flood Control	Create	no	no	no	no	no	no	no	no	no	
Surplus	Deliver	no	no	no	no	no	no	no	no	no	
Quantified (70R)	Create	no	no	yes	no	yes	yes	yes	yes	yes	
Surplus	Deliver	no	no	no	no	yes	yes	yes	yes	yes	
Full Domestic	Create	no	no	yes	no	yes	yes	yes	yes	yes	
Surplus	Deliver	no	no	yes	no	yes	yes	yes	yes	yes	
Normal	Create	yes	yes	yes	yes	yes	yes	yes	yes	yes	
	Deliver	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Shortage (involuntary and voluntary)	Create	no	no	yes	yes	yes	no	no	no	no	
	Deliver	no	no	yes	yes	yes	no	no	no	no	
System Assessment		yes	yes	yes	yes	yes	no	yes	yes	yes	
Period of Activity		2006-2026	2017-2026	2009-2060	2009-2060	2020-2060	Temporary	2008-2026	2008-2026	2008-2026	

- Notes:
- 1 BS" Basin States, CBS" Conservation Before Shortage, RS" Reservoir Storage
 - 2 yes" Activity assumed to occur
 - 3 no " Activity assumed to not occur
 - 4 Beginning in 2012, Nevada is assumed to receive 40 kaf of the water conserved by the Drop 2 Reservoir during Normal and Surplus years until a total of 300 kaf has been credited to Nevada. Thereafter, water conserved by the Drop 2 Reservoir is assumed to be system water. Under the Conservation Before Shortage Alternative, extraordinary conservation is assumed to be undertaken by the federal government during voluntary shortage conditions but not during involuntary shortage conditions.

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EXHIBIT 2

**Letter from Herbert R. Guenther
to Robert W. Johnson,
November 28, 2005**

ARIZONA DEPARTMENT OF WATER RESOURCES
3550 North Central Avenue, Phoenix, Arizona 85012-2105
Telephone (602) 771-8426



November 28, 2005

[Via Facsimile (702) 293-8156
and Regular Mail]

JANET NAPOLITANO
Governor

HERBERT R. GUENTHER
Director

Mr. Robert W. Johnson
Regional Director
Bureau of Reclamation
Lower Colorado Region
1000, P.O. Box 61470
Boulder City, Nevada 89006-1470

Re: *Arizona's Comments Concerning Scope of Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions*

Dear Mr. Johnson:

The Arizona Department of Water Resources (Department) submits the following comments regarding the scope of the environmental impact statement (EIS) for the proposed *Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions* (70 Fed. Reg. 189 (September 30, 2005)) (hereinafter Shortage Guidelines). The Department requests that the Bureau of Reclamation draft the scope of the Shortage Guidelines broadly enough to incorporate an alternative that includes all of the following actions:

1. The EIS evaluation for the Shortage Guidelines should include a complete review of Section 602(a) of the Colorado River Basin Project Act of 1968 (Project Act) and the 602(a) storage algorithm (algorithm) used to determine releases from Lake Powell. The present method for calculating 602(a) storage requirements results in the overstatement of the amount of storage in the Upper Basin reservoirs that is intended to protect against curtailment in the Upper Division States. Currently, 5.179 million acre-feet (maf) are added to the 602(a) storage requirement for power protection. That, in turn, arbitrarily reduces the probability of equalization and increases the likelihood of shortages to Arizona.

The Department requests that the alternative remove power protection from the algorithm. At a minimum, any alternative provided for in the EIS should recognize that water supply for consumptive uses has a higher priority than water supply for power.

2. The Department requests that the alternative use actual Upper Basin depletions and projected new depletions that are verifiable to calculate the 602(a) storage requirement on an annual basis. The projected Upper Basin depletion schedules currently used in the algorithm are significantly overstated. This overstatement results in an increase in 602(a) storage of approximately 3.8 maf in 2006 and 2007, which increases the probability of shortages to Arizona. The Department recommends that Reclamation utilize the Upper Basin depletion projections contained in the Draft Interim Surplus Guidelines Environmental Impact Statement as they track far more closely with actual Upper Basin depletions than do the current Upper Basin depletion schedules used in the algorithm.
3. The Department requests that the alternative eliminate the 14.85 million acre-feet (maf) storage requirement set forth in the Interim 602(a) Storage Guideline for Management of Colorado River (Interim 602(a) Storage Guideline). The guideline artificially limits equalization releases and will have the same detrimental effect on the State of Arizona as the current algorithm. The amount of 14.85 maf is far in excess of the amount needed to fulfill the requirements of 602(a) of the Project Act.

The Department also notes that the Secretary does not appear to be considering the available storage in all of the reservoirs authorized by the Colorado River Storage Project Act, 43 U.S.C. § 620 *et seq.* in determining whether forecasted active storage in the Upper Basin is greater than the Section 602(a) storage requirement under subarticle II(3) of the Coordinated Long-Range Operation of Colorado River System Reservoirs. If this is the case, the Department requests that the Secretary adjust the Colorado River System Simulation Model to properly calculate active storage in the Upper Basin.

Finally, the Department requests that any alternative incorporate Arizona's recommendation for total Lower Basin shortages, which includes Mexico. Arizona's recommended shortages range in volume from 400,000 acre-feet (af) to 600,000 af and would be implemented as follows:

- a. For Mead elevations between 1075 ft. and 1050 ft., the shortage reduction should be 400,000 af.
- b. For Mead elevations between 1050 ft. and 1025 ft., the shortage reduction should be 500,000 af.
- c. For Mead elevations beginning at elevation 1025 ft. and below, the shortage reduction should be 600,000 af.

Hydrologic conditions that could necessitate reductions in excess of 600,000 af must trigger a Secretarial consultation process to determine how to implement additional reductions in the least damaging and most equitable manner possible. Further, if hydrologic conditions indicate that Powell elevations are rising and may reach equalization elevations in the coming year, the Secretary may have the discretion, after consultation with Arizona, to forego a shortage declaration even if a Lake Mead trigger elevation has been reached.

Mr. Robert W. Johnson
November 28, 2005
Page 3 of 3

The Seven Colorado River Basin States continue to collaborate on the development of conjunctive operation of Lakes Powell and Mead to minimize shortages to the Lower Division States and avoid curtailment on the Upper Division States. Arizona is committed to finding a solution that benefits both basins. It is crucial, however, that the EIS be scoped broadly enough to include an alternative that incorporates the above adjustments to 602(a) storage and that all alternatives include Arizona's recommendation regarding shortages as outlined above. Please contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Herbert R. Guenther".

Herbert R. Guenther

HRG:ckl

EXHIBIT 3

**Director's Shortage Sharing
Workgroup Recommendation,
October 24, 2006
(Revised) Final**

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

October 24, 2006

(Revised)

Final

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.

Director's Shortage Sharing Workgroup Recommendation
October 24, 2006
(Revised)
Final

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.

Shortage Sharing Scenarios - Pro Rata Reductions Based On Priority 4 Entitlements

(Values in Acre-feet)

Year	Priority 1-3 Mainstream Projected Consumptive Use ¹	Available for Priority 4 Diversions - Normal Supply ²	Priority 4 Mainstream Total Entitlement	Priority 4 Mainstream Shortage Sharing Percentage	Arizona Portion of Lower Basin Shortage ³	Available for Priority 4 Diversion - Reduced Supply	Priority 4 Mainstream Diversion - Reduced Supply	Projected Priority 4 Mainstream Diversion ¹	Priority 4 Mainstream Diversion - Net Reduction
400,000 Acre-Foot Shortage									
2010	1,171,867	1,556,133	164,652	10.58%	308,588	1,247,545	132,001	155,880	23,879
2016	1,177,135	1,550,865	164,652	10.62%	308,588	1,242,277	131,890	158,961	27,071
2025	1,185,597	1,542,403	164,652	10.68%	308,588	1,233,815	131,710	162,362	30,652
2031	1,191,580	1,536,420	164,652	10.72%	308,588	1,227,832	131,582	163,799	32,217
500,000 Acre-Foot Shortage									
2010	1,171,867	1,556,133	164,652	10.58%	385,735	1,170,398	123,838	155,880	32,042
2016	1,177,135	1,550,865	164,652	10.62%	385,735	1,165,130	123,699	158,961	35,261
2025	1,185,597	1,542,403	164,652	10.68%	385,735	1,156,668	123,475	162,362	38,887
2031	1,191,580	1,536,420	164,652	10.72%	385,735	1,150,685	123,314	163,799	40,485
600,000 Acre-Foot Shortage									
2010	1,171,867	1,556,133	164,652	10.58%	462,881	1,093,251	115,675	155,880	40,204
2016	1,177,135	1,550,865	164,652	10.62%	462,881	1,087,983	115,509	158,961	43,452
2025	1,185,597	1,542,403	164,652	10.68%	462,881	1,079,521	115,239	162,362	47,122
2031	1,191,580	1,536,420	164,652	10.72%	462,881	1,073,538	115,047	163,799	48,752

ENDNOTES

¹ Source: Arizona Department of Water Resources 2003 mainstem Colorado River water use projections.

² An amount of 72,000 acre-feet has also been deducted to account for higher priority Ak-Chin and Salt River Pima-Maricopa Indian settlement water.

³ This amount is determined by first deducting Mexico's share (16.7%) of the total Lower Basin shortage. The remaining shortage volume is apportioned first to Nevada (7.42%) and the remainder to Arizona.

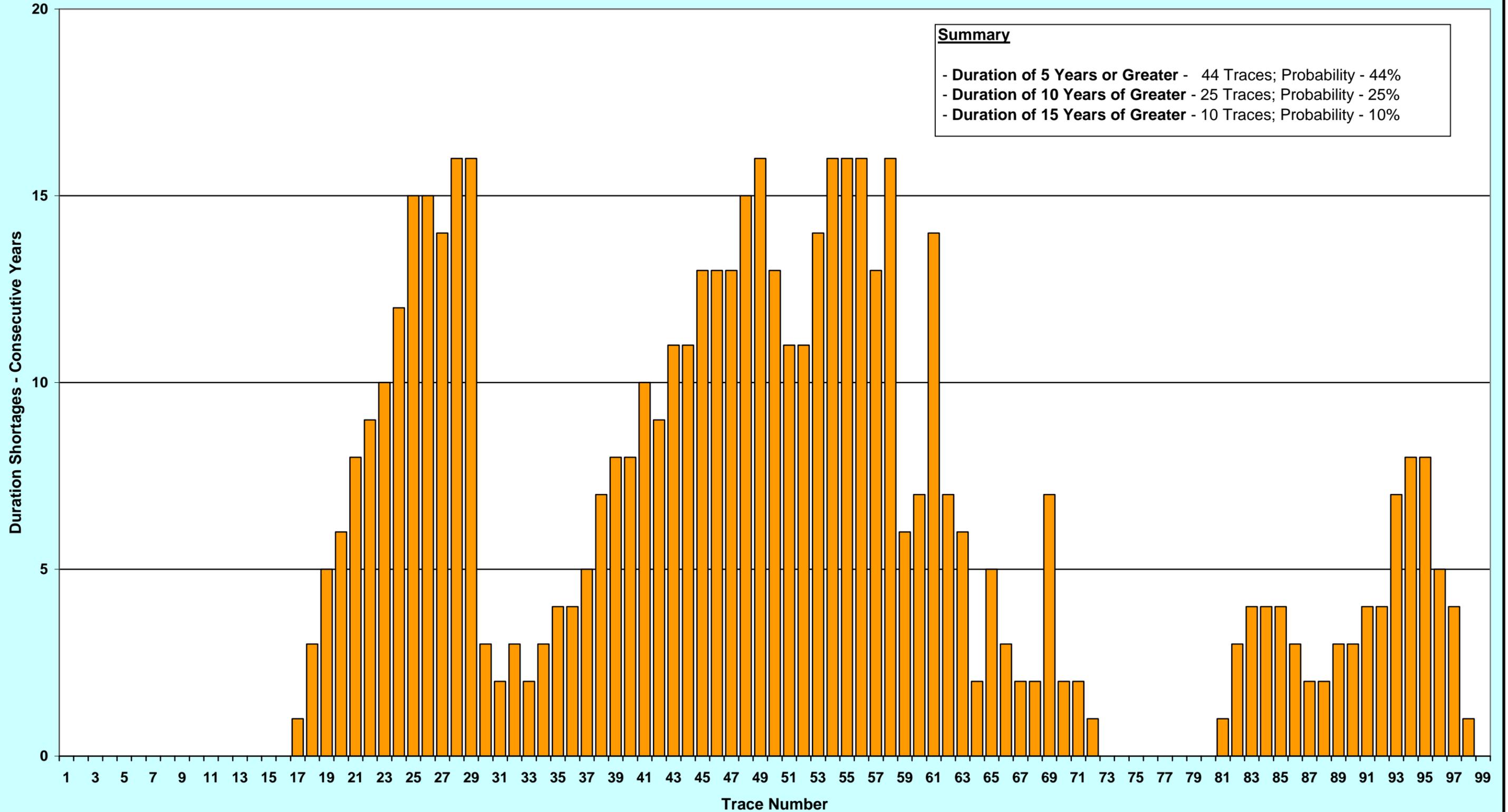
EXHIBIT 4

Arizona Multiple Consecutive Year Shortage Graphs

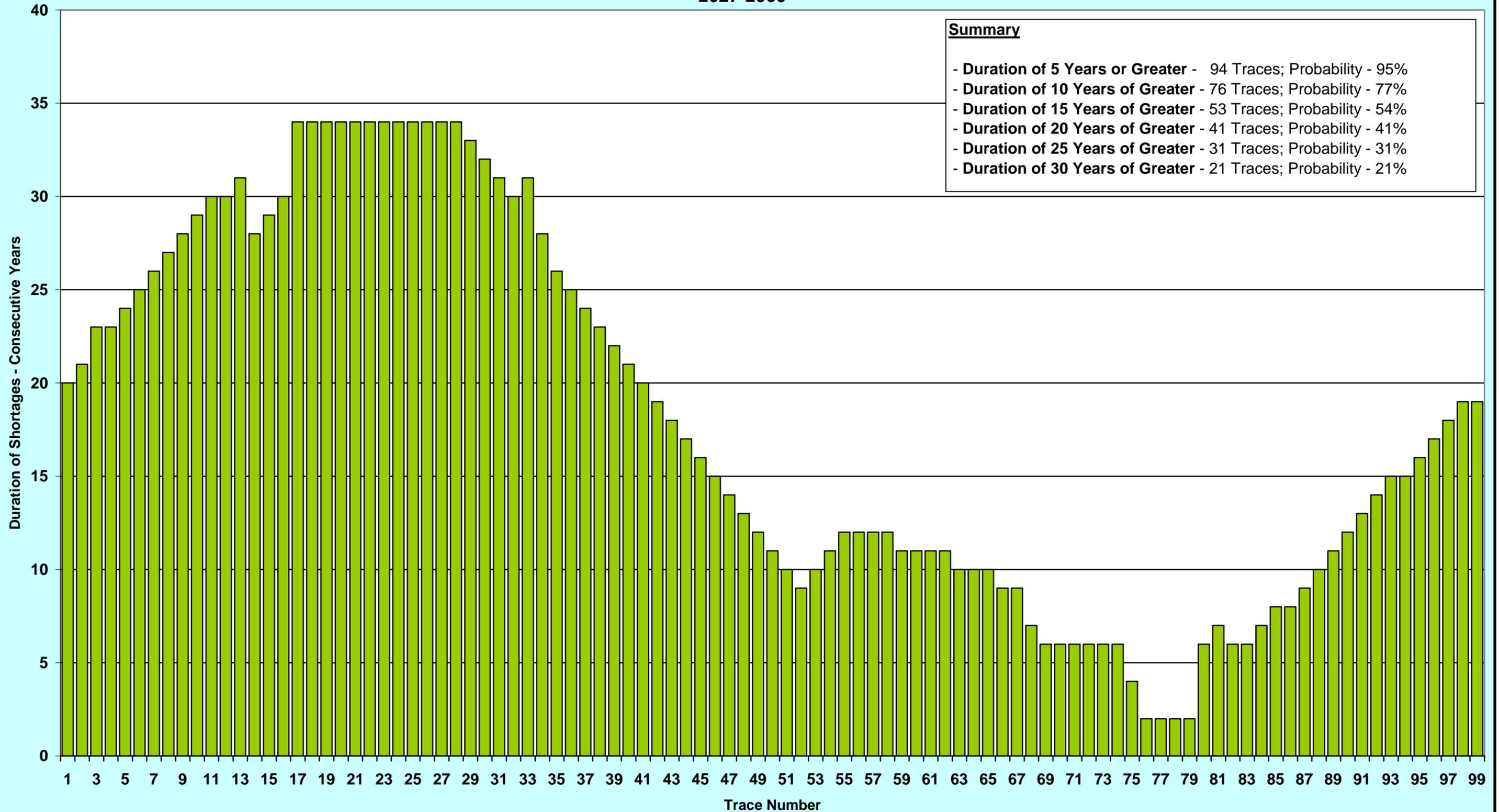
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Maximum Duration of Shortages
2008-2026

Summary

- Duration of 5 Years or Greater - 44 Traces; Probability - 44%
- Duration of 10 Years or Greater - 25 Traces; Probability - 25%
- Duration of 15 Years or Greater - 10 Traces; Probability - 10%

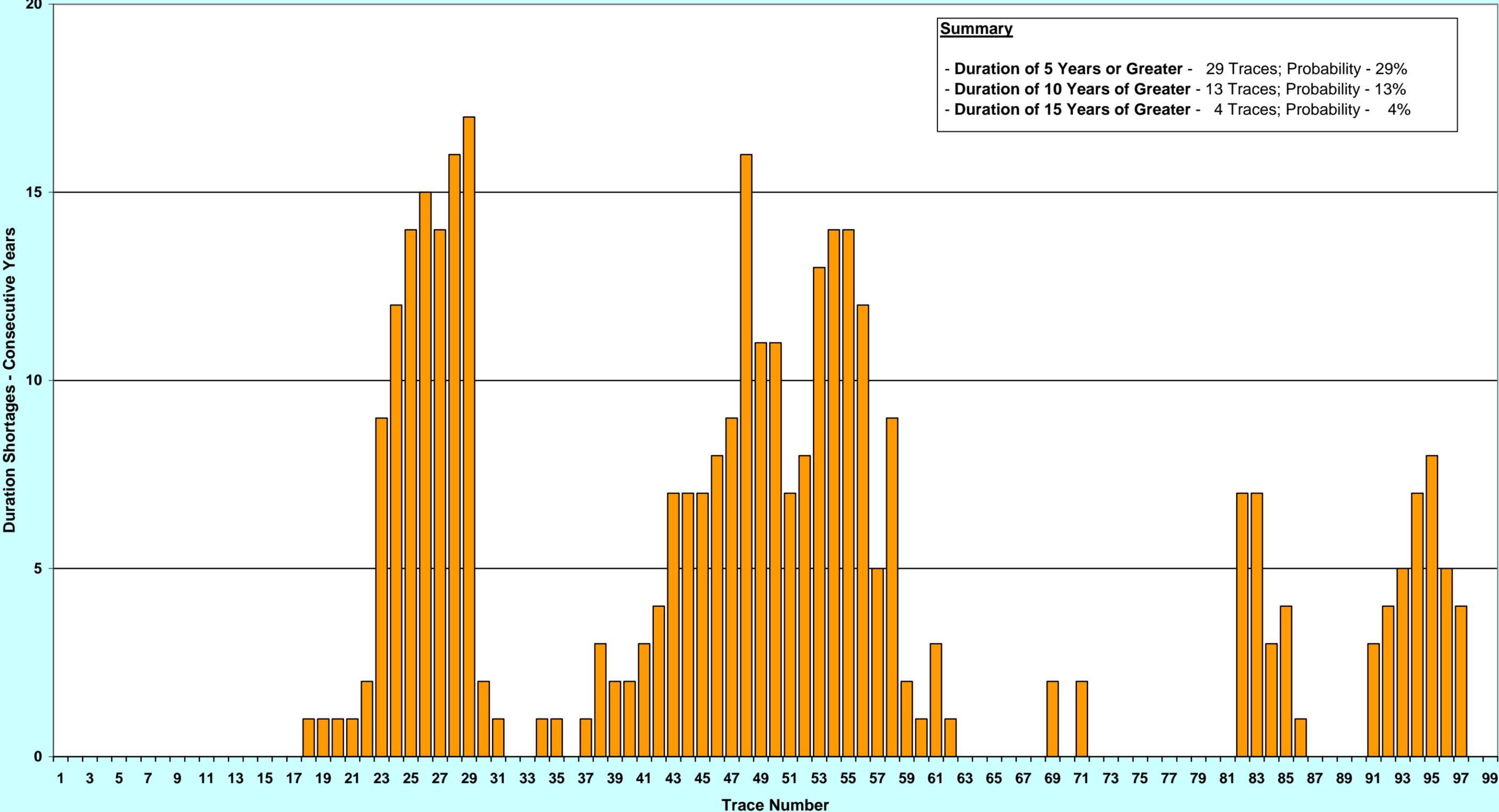


**No Action (NA.short.cy)
Maximum Duration of Shortages
2027-2060**



Basin States Alternative (BS.short.cy)
Maximum Duration of Shortages
2008-2026

Summary	
- Duration of 5 Years or Greater -	29 Traces; Probability - 29%
- Duration of 10 Years or Greater -	13 Traces; Probability - 13%
- Duration of 15 Years or Greater -	4 Traces; Probability - 4%



**Basin States Alternative (BS.short.cy)
Maximum Duration of Shortages
2027-2060**

Summary

- Duration of 5 Years or Greater - 95 Traces; Probability - 96%
- Duration of 10 Years of Greater - 74 Traces; Probability - 75%
- Duration of 15 Years of Greater - 53 Traces; Probability - 54%
- Duration of 20 Years of Greater - 41 Traces; Probability - 41%
- Duration of 25 Years of Greater - 32 Traces; Probability - 32%
- Duration of 30 Years of Greater - 22 Traces; Probability - 22%

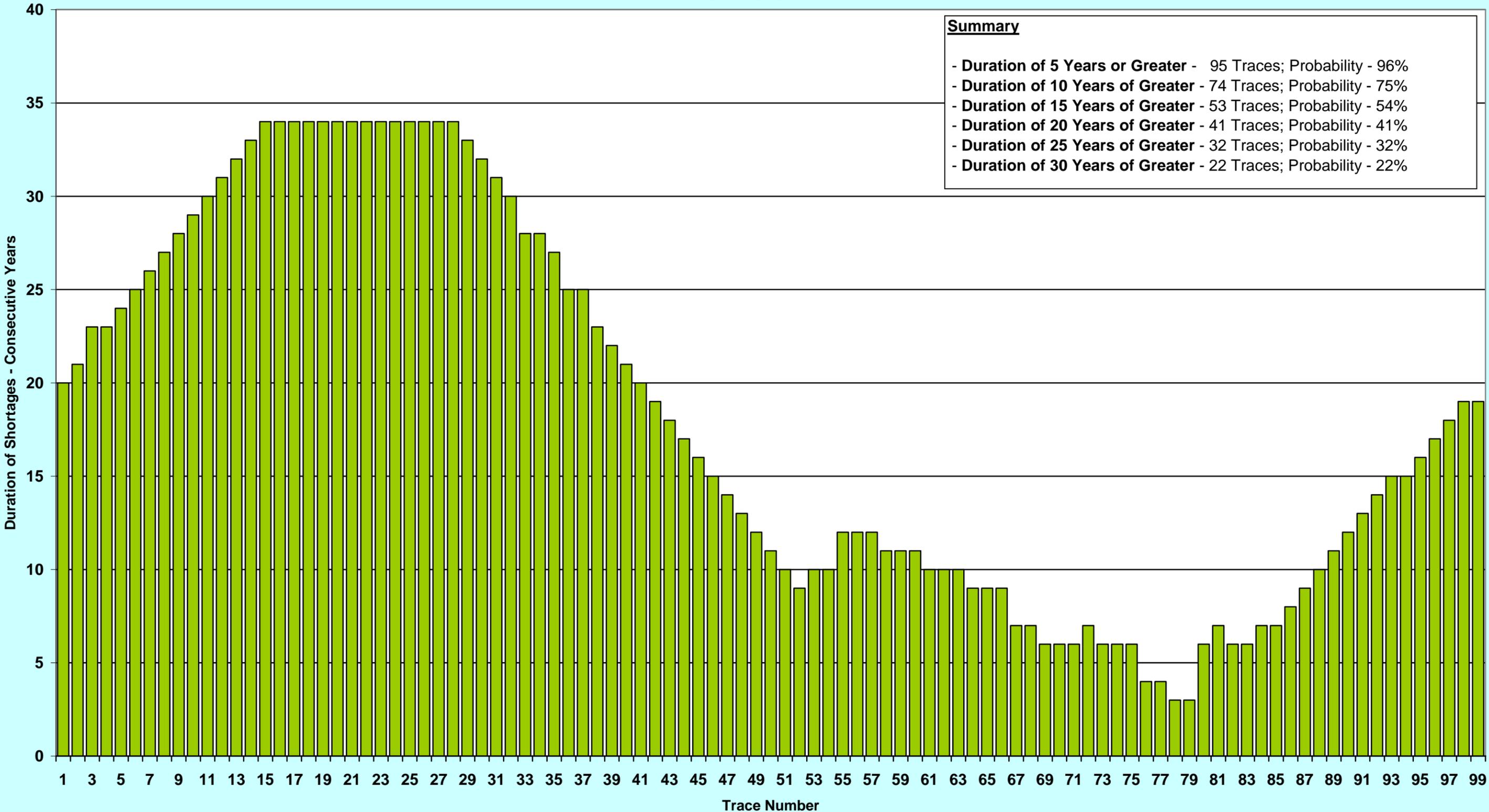


EXHIBIT 5

ADWR Technical Corrections to DEIS

ARIZONA DEPARTMENT OF WATER RESOURCES

**COMMENTS ON UNITED STATES BUREAU OF RECLAMATION'S
DRAFT ENVIRONMENTAL IMPACT STATEMENT
COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES AND
COORDINATED OPERATIONS FOR LAKE MEAD AND LAKE POWELL**

Page	Chapter/ Section	Line(s)	Comment Type	Comment
ES-3	ES.1.3	8	Text	Change bullet to read: Arizona water users, particularly lower priority users along the main stem of the lower Colorado River and located in the Central Arizona Project service area.
ES-17	ES.2.13		Analysis	ADWR believes that the duration of shortages has not been properly addressed through out the DEIS and thus the impacts of shortages to Arizona have been minimized in the DEIS.
ES-19	Table ES-2	4.8	Text	Biological Resources, a superscript 1 appears, indicating a footnote but there is no footnote.
ES-19	Table ES-2	4.10	Text	Indian Trust Assets, a superscript 2 appears but there is no footnote.
ES-21	Table ES-2	4.13	Text	Transportation, a superscript 1 appears but there is no footnote.
ES-22	Table ES-2	4.14	Analysis	Addition of a table comparing the relative performance of the action alternatives to the No Action alternative in achieving the purposes identified in the DEIS is suggested. The qualitative approach utilizing "+" and "-" symbols, e.g. +++ is better than ++, etc., is suggested.
ES-22	Table ES-2	4.14	Analysis	Socioeconomics and Land Use, a superscript 1 appears but there is no footnote. The information presented under 4.14 is not clear. What are the percentages of? Also, since the number for socioeconomic effect for the Conservation Before Shortage alternative is based on only counting effects once shortage is mandatory, as described in Chapter 2, a footnote should be added to clarify that the number shown is not directly comparable to the others in the same row.
ES-22	Table ES-2	4.14	Analysis	ADWR believes that there are significant impacts to municipal and industrial sectors caused by shortages, especially due to the duration of shortages.
1-14	1.7.2.2	Figure 1.7-3	Text	The portion of northeastern Arizona north of the dashed green basin dividing line should be crosshatched to indicate that it is Upper Division.
1-18	1.7.3	29-38	Text	There is no mention of municipal and industrial uses along the lower Colorado River that withdraw water from wells located within the floodplain of the Colorado River.
1-26	1.8.5	19	Analysis	The Conservation Plan was actually designed to mitigate adverse effects of covered activities under the Endangered Species Act. The LCR MSCP EIS does not address nor provide NEPA compliance for the covered activities. The finding that "...all species that use the habitats impacted by LCR MSCP-covered activities benefit from the conservation actions currently being carried out under the LCR MSCP, and are therefore fully mitigated for within the limits of the LCR MSCP analysis." needs clarification. Supporting quantification and documentation would be needed before concluding that all effects of covered activities, to all species, have been mitigated. As stated in the LCR MSCP EIS, p. 1-17, line 8 at 1.2.4 "This EIS/EIR evaluates only the impacts of implementing the Conservation Plan and issuance of a section 10(a)(1)(B) permit by the Service based on this plan because these are the two components of the proposed action."
2-13	2.4.5	18	Text	The Conservation Before Shortage alternative features the additional objective of making water available for environmental uses. This additional objective is beyond the stated purpose of the proposed federal action identified on p. 1-3, line 2 at 1.3.
2-14	2.6.1	25	Text	The Reservoir Storage alternative features the additional objective of maintaining Lakes Powell and Mead at higher elevations. This additional objective is beyond the stated purpose of the proposed federal action identified on p. 1-3, line 2 at 1.3.
2-19	2.7	Table 2.7-2	Text	A line needs to be added that separates the "Flood Control Surplus" from the "Quantified Surplus (70R) - which is not shown.
2-21	2.8	Table 2.8-1	Analysis	ADWR would like to see a line for Lake Mead December elevation, probability of elevations less than or equal to 1,000 feet msl for both 2026 and 2060.

Page	Chapter/Section	Line(s)	Comment Type	Comment
2-25	Table 2.8-1	4.14	Analysis	Socioeconomics and Land Use, the information presented is not clear. What are the percentages of? Also, since the number for socioeconomic effect for the Conservation Before Shortage alternative is based on only counting effects once shortage is mandatory, as described in Chapter 2, a footnote should be added to clarify that the number shown is not directly comparable to the others in the same row.
2-25	Table 2.8-1	4.14	Analysis	ADWR believes that there are significant impacts to municipal and industrial sectors caused by shortages, especially due to the duration of shortages.
3-7	3.2.1.4	23	Text	Picacho State Recreation Area is managed by the State of California, not Arizona.
3-10	3.2.2	Figure 3.2-3	Text	The City of Nogales no longer has a CAP allocation and should not be shown in this figure. There are also several dots in shown Gila County, what are these ?
3-16	3.3.1	5-12	Text	This section is repetitive; it has already been described on page 3-15, lines 31-35 and page 3-16, lines 1-3.
3-24	3.3.6	14	Text	The numbers should be checked. It appears that a decimal point was used where a comma should have been placed.
3-33	3.4.2.1	Table 3.4-3	Text	The estimated diversion entitlement value for Arizona of 1,078,398 does match the value of 1,077,971 shown in Table G-80. ADWR believes that the latter value is correct.
3-39	3.4.6.1	Table 3.4-4	Text	A footnote should be added that states the Priorities 2 and 3 is co-equal.
3-41	3.4.3.6	Table 3.4-6	Text	The listing for Nevada Department of Wildlife should be checked.
3-50	3.5.6	15-17	Text	Lines 15-17 should follow the discussion of the McCulloch plant in line 10, and all that should follow the completed discussion of the PG&E plume as the latter is downstream from the former.
3-70	3.8.3	Table 3.8-7	Text	Under location "GCS" should be GCD for Glen Canyon Dam.
3-71	3.8.3	Table 3.8-7	Text	Under Yuma clapper rail the subspecies should <u>yumanensis</u> .
3-80	3.9.7.3	1	Text	The heading should be 3.9.8 as the section is not a subsection under Davis Dam to Parker Dam.
3-80	3.9.7.4	27	Text	The heading should be 3.9.9 as the section is not a subsection under Davis Dam to Parker Dam.
3-82	3.10.2.1	Table 3.10-1	Text	It would be helpful if a total for all of the Tribes is shown after the States totals.
3-86	3.10.2.2	Table 3.10-2	Text	The table has left out the allocations for the Tonto-Apache (128 acre-feet) and Pascua-Yaqui (500 acre-feet) Reservations, and Tohono O'Odham - Chuichu District (8,000 acre-feet).
				There are also 22,000 acre-feet for the Salt River-Pima Maricopa Community, which is delivered to various Phoenix area cities, and 500 acre-feet for the Yavapai-Prescott Tribe; which has been assigned to the City of Scottsdale. Both these allocations retain their CAP Indian Priority.
3-87	3.10.2.2	10-13	Text	Why is a CAP Indian allocation, which is not covered by water rights settlement, not considered an Indian Trust Asset?
3-121	3.12.4.6	34	Text	Delete "an area." Except for areas specifically closed the entire reach is open and accessible to fishing.
3-127	3.14	9	Analysis	The assumption "No long-term permanent changes in land uses are expected to be caused by the proposed federal action because only agricultural lands would be directly affected during a shortage and these lands would be fallowed and not permanently removed from production." may not be valid. Extended fallowing could result in a change in land use or economic failure of the agricultural operation.
3-127	3.14	9-16	Analysis	If an evaluation of the duration of shortages had been made, agricultural land may in fact be permanently removed.
3-127	3.14	17-24	Analysis	There is no mention of agricultural lands along the main stem of the lower Colorado River, such as the Mohave Valley Irrigation District or numerous smaller agricultural operations that will be impacted by shortages.
3-128	3.14.2	13	Text	As a county the correct spelling is Mohave. While water stored in Lake Pleasant does overlay lands within Yavapai County, CAP water does not serve Yavapai County.
3-128	3.14.2.1	Table 3.14-1	Text	Under the column "Total Land Acres", the acreage values for the CAP Counties and Western Arizona Counties are shown as the same - 14,928,438. This does not appear to be correct.

Page	Chapter/ Section	Line(s)	Comment Type	Comment
3-129	3.14.2.1	8-13	Text	There is no mention of municipal entities located along the main stem of the lower Colorado River, such as Bullhead City, Lake Havasu City, Parker, and Ehrenberg. They will also be affected by shortages, probably more so than the Central Arizona cities.
3-129	3.14.2.1	21-29	Analysis	Why was 1994 chosen as the reference year ? Why wasn't data from the 2000 census utilized?
3-130	3.14.2.2	4-8	Text	There is only a small portion of the Fort Mojave Indian Reservation that is located in Clark County, Nevada, which appears to be less than 5,000 acres shown in Table 3.14-2. All of the agricultural lands in Clark County do not use Colorado River water.
3-131	3.14.2.3	9-14	Text	There are also significant agricultural lands found in these counties, especially located in the Palo Verde and Imperial Irrigation Districts, and the Coachella Valley Water District.
4-10	4.2.7.1	Table 4.2-1	Text	Under the "Calculation" column, the "-" in the formula for the calculation for Nevada's stage 1 shortage distribution should be an "=" sign.
4-37	4.3.2.2	13	Text	The value should be 82.3 maf rather than 8.23 maf.
4-61	4.3.6.2	8	Text	As described "A point immediately downstream of Havasu NWR...." would be in Lake Havasu north of Lake Havasu City. The description should be checked.
4-61	4.3.6.2	7-8	Text	Table 4.3-24 does show that the Basin States Alternative goes below Lake Mead elevation 1,000 feet msl, so the statement in these lines is not accurate.
4-64	4.3.6.3	9-13	Text	It would be useful if a table showing the analysis of stage versus flow be shown here, instead of simply referencing the LCR MSCP. This comment also applies to section 4.3.7.2
4-81	4.4.1.1		Analysis	There is no discussion or evaluation of the length or duration of shortages.
4-83	4.4.4.1		Text	The duration of shortages should also be displayed in this section.
4-86	4.4.4.1	7-13	Text	ADWR believes that the determination of the average shortage volume is incorrect. The probability of any shortage occurring in a given year throughout the 99 traces is 1/99. So the average shortage volume for the year would be divided by 99. The average shortage for a given year is then the sum of yearly average shortages that occur throughout the 99 traces.
4-93	4.4.4.1	Figure 4.4-6	Text	The maximum values of shortages shown in this figure do not appear to match the values shown in Table 4.4-10.
4-123	4.4.7.1	Table 4.4-15	Text	Why are CAP Indian and M&I users shorted in the year 2017 for a shortage of 400,000 acre-feet ? Based on Table G-55, there is enough Excess Water and CAP NIA Priority Water to cover the Arizona portion of the shortage.
4-124	4.4.7.1	Table 4.4.-15	Text	For the shortage year of 2040 and under the shortages of 1,800,000 and 2,500,000 acre-feet, the shortages to CAP Indian and M&I sectors should not exceed their CAP subcontract allocations.
4-128	4.4.8	2	Text	A section should be added comparing the timeline within the year for implementation of the approach of each alternative. Implementation issues should be identified. For example, under the Conservation Before Shortage alternative there should be a discussion of what happens if the Secretary is not able to achieve sufficient reductions in use through voluntary conservation and when in the year, or if, a decision to make a mandatory reduction to make up for the insufficiency of voluntary conservation would be made. A narrative discussion is suggested.
4-261	4.14.1.1	13	Text	Economic impacts to entities that benefit from CAP allocations through exchange should be addressed. The ability of such entities to find other water may be limited. The priority of such exchanged water should be addressed as well. Entities receiving CAP water through exchange include: Camp Verde Yavapai-Apache Nation, Tonto Apache Tribe, and San Carlos Apache Tribe.
4-261	4.14.1.1	14-21	Text / Analysis	There is no mention of agricultural lands along the main stem of the lower Colorado River. There is not any analysis of the effects caused by the length or duration of shortages.
4-263	4.14.1.1	22	Analysis	The assumption "While fallowing of lands may occur during shortages, there are other sources of water that may be used by farmers in order to offset shortages." is not valid for Mohave Valley agriculture or other lands along the Colorado River since groundwater has been found by Reclamation to be within the accounting surface of the Colorado River.
4-263	4.14.1.2	26-27	Text	In Arizona, there is not any groundwater banking that is available for use by the agricultural sector.
4-264	4.14.1.3	3-11	Text	There is no mention of agricultural uses along the main stem of the lower Colorado River that would be affected by shortages

Page	Chapter/ Section	Line(s)	Comment Type	Comment
4-266	4.14.1.3	8-18	Analysis	There are direct and indirect costs associated with paying farmers to fallow lands in the Conservation Before Shortage alternative. Reclamation should contact the Imperial Irrigation District to get information about their fallowing programs (as part of Quantification Settlement Agreement and California Water Delivery Agreement).
4-267	4.14.1.3	13	Analysis	Analyses of the following is not clear: "The M&I shortages allocated to each state were compared to the drought plans or actions that state or local agencies could institute during a shortage." Cities along the Colorado River that utilize post 1968 contract water may not have alternative supplies available.
4-269	4.14.2	Table 4.14-1	Text	In the "Indian Agriculture" section of this table, why is there Indian agricultural lands shown for shortages of 400,000 and 500,000 acre-feet for the year 2017 ?
4-270	4.14.2	6	Analysis	The assumption "No permanent change in land uses would occur under any of the alternatives because shortages would be of a temporary nature and agricultural lands would likely not be permanently removed from production." may not be valid. Multi-year fallowing could result in alternate land use or collapse of the farming operation.
4-270	4.14.2	7	Analysis	ADWR believes that the impacts would not be "temporary" because of the length of shortages.
4-271	4.14.2.1	10	Text	Why are effects in Graham County evaluated?
4-272	4.14.2.1	Table 4.14.-2	Text	In the year "2025" section, why is the probability of shortage value of 16 for 400,000 acre-feet under the "BS" column less than probability of shortage value of 18 shown in the year "2017" section ?
4-274	4.14.2.1	29-32	Text	"Even if considered to be permanent, these potential changes in jobs and personal income area not considered substantial because the changes represent less than one percent of total employment and personal income within the seven-county study area in Arizona." The impact analysis should be reported on a county by county basis in order to avoid understating the impact due to the overwhelming influence of total employment and income in urban Maricopa County. Impacts in Maricopa County may not be comparable to those in Pinal County.
4-275	4.14.2.1	10	Text	Under the Conservation Before Shortage alternative there should be a discussion of what happens if the Secretary is not able to achieve sufficient reductions in use through voluntary conservation and when in the year, or if, a decision to make a mandatory reduction to make up for the insufficiency of voluntary conservation would be made. The timeline for the process under the Conservation Before Shortage should be considered and compared against the purpose statement identified in the DEIS, particularly the purpose of increasing predictability. Since Reclamation has attempted voluntary reductions to replace the bypass stream for the Yuma Desalting Plant, the relative success of that program might serve as a benchmark for the concept.
4-275	4.14.2.1	10	Analysis	Economic effects of the Conservation Before Shortage alternative are not directly comparable to the other alternatives. That alternative assumes federal subsidy of conservation actions up to 1.5 mafy then 50:50 cost share with non-fed users after that. The impact analysis only includes effects of involuntary shortages. Impact analysis does not include effects to users of a water use fee to cost share conservation measures.
4-275	4.14.2.1	10-18	Analysis	There should be an estimate of the cost to pay farmers to fallow land under this alternative.
4-275	4.14.2.1	39	Analysis	Economic effects and reduction in jobs are compared against all seven CAP service area counties. The large size of the Maricopa County economy may mask effects.
4-276	4.14.2.1	2	Text	The word "both" doesn't fit.
4-277	4.14.2.2	26-35	Analysis	What about losses in tax revenue from decreases in tourism or manufacturing. The impacts seem low considering that the impacts of the length or duration of shortages was not analyzed.
4-281	4.14.2.4	36-40	Text	It appears that the only agricultural lands located in Clark County that use Colorado River water are the Fort Mojave Indian Reservation lands.
4-282	4.14.3.1	28	Text	Shortages greater than 800,000 acre-feet occur; they should also be evaluated.
4-282	4.14.3.1	37-8	Analysis	ADWR believes there are economic costs associated drought response programs that need to be addressed.
4-283	4.14.3.2	14-16	Text	The sentence that begins with "MWD has implemented..." seems redundant.
4-286	4.14.5.3	29-32	Analysis	The statements may be true for shortages of 1 or 2 years in length, but would not be true for shortages of long duration.

Page	Chapter/Section	Line(s)	Comment Type	Comment
5-6	5.1.20	36	Text	It appears that section 5.1 "Federal Statutes and Policies" runs into a listing of cumulative projects on page 5-8. Separation of the sections by adding 5.2 Cumulative Projects between lines 35 and 36 on p. 5-6, and renumbering thereafter, would address the issue.
5-10	5.1.26	20	Analysis	Again, as stated in the LCR MSCP EIS, p. 1-17, line 8 at 1.2.4 "This EIS/EIR evaluates only the impacts of implementing the Conservation Plan and issuance of a section 10(a)(1)(B) permit by the Service based on this plan because these are the two components of the proposed action." It is important that the scope not be misconstrued. The LCR MSCP EIS did not make findings on the effects of the covered activities from a NEPA perspective.
A-21	A.6.3	32-33	Text	References Table A-22 in Section A-10. A-10 does not include any tables.
A-23	A.6.3.1	1-10	Text	ADWR believes that the shortage distribution between CAP and Priority 4 main stem users should follow the ADWR shortage recommendations
A-24	A.6.3.1	1-2	Text	This line is redundant.
A-24	A.6.3.1	7	Text	It seems that the CRSS model should determine how much shortage is needed to protect the 80P1050 level and absolute protection of elevation 1,000 feet at Lake Mead. The amount of shortage is distributed among the lower Basin users. From the discussion, it appears that the total shortage is not determined by the model, per se.
D-4	Appendix C	Table D 1d	Text	The schedules shown for the Hopi Tribe and Mohave County Water Authority (entitlement portion transferred from the Cibola Valley Irrigation District) do not match the schedules provide by ADWR.
D-7	Appendix C	Table D 1g	Text	Should these schedules be included as part of the CAP contractors' schedules ?
D-9	Appendix C	Table D 1i	Text	The schedule shown for Desert Lawn Memorial Park does not match the schedule provided by ADWR.
E-1 to E-4	Appendix E	Table E 1	Text	The "Date" column within the Table needs to indicate what the date is associated with. The contract and priority dates associated with each entitlement are not always the same, particularly when an entitlement has been transferred. The Department believes that this column should indicate the priority date. The following priority dates that need to be revised are those associated with partial transfers of Cibola Valley Irrigation and Drainage District (CVIDD) entitlements. The dates associated with the Hopi Tribe (Contract No. 04-XX-30-W0432) and Mohave County Water Authority (MCWA) (Contract No. 04-XX-30-W0431) for their surplus, unused apportionment and the fourth priority entitlements need to be changed to CVIDD's 1983 priority date. The priority date for B&F Investment, LLCs entitlement (Contract No. 06-XX-30-W0453) also needs to be changed to 1983.
E-1 to E-4	Appendix E	Table E 1	Text	For 5 th and 6 th priority entitlements, list the type of water use in the "Use" column rather than listing the priority of the entitlement. Those entitlements that are 5 th and/or 6 th can be listed under the "5 th priority" category.
E-1 to E-4	Appendix E	Table E 1	Text	For those 4th priority entitlement holders that can provide both agricultural and M&I water, present the associated volumes and types of use on separate lines.
E-1 to E-4	Appendix E	Table E 1	Text	For those entitlement holders that have an entitlement that specifies both a consumptive use and a diversion volume, only present the consumptive use volume, or if both values are displayed, only count the consumptive use volume. Counting both values results in an inflated entitlement. The affected entitlement holders include Cibola, Imperial and Havasu National Wildlife Refuges and the City of Parker.
E-1 to E-4	Appendix E	Table E 1	Text	The 5th and 6th priority entitlement associated with Arizona State Land Department Contract No. 4-07-30-W0317 is 9,067 acre-feet, not 9,067.2 acre-feet.
E-1 to E-4	Appendix E	Table E 1	Text	The "not specified *****" and "unquantified *****" footnoted items are not described in footnotes section. To increase legibility, numbers, rather than asterisks, should be used to identify footnoted items.
E-1 to E-4	Appendix E	Table E 1	Text	The Amendment No. 1 of MCWA's Contract No. 05-07-30-W0320, which includes the conversion of 3,500 acre-feet of 5th and 6th priority entitlement to 4th priority entitlement, has been finalized and is ready for signature. As a result, the 3,500 acre-feet of entitlement should be reflected as 4th priority M&I entitlement. The priority date for this entitlement is 1968. The 5th and 6th priority entitlement should continue to remain "upon request" with a priority date of 1995.

Page	Chapter/ Section	Line(s)	Comment Type	Comment
E-1 to E-4	Appendix E	Table E 1	Text	The 5th and 6th priority entitlement that has been subcontracted under the above MCWA contract needs to be revised: Arizona-American Water Company has a subcontract for 950 acre feet; MVIDD has two subcontracts, one for 380 acre-feet and another for 600 acre-feet.
E-1 to E-4	Appendix E	Table E 1	Text	Revise the "Total" for this section (5th priority) according to recommended changes.
E-1 to E-4	Appendix E	Table E 1	Text	The Brooke Water Company's new M&I contract (Contract No. 4-07-30-W0444) has been finalized and is ready for signature. This contract will supersede and replace Brooke's existing contract (Contract No. 4-07-30-W0042). Under the new contract, Brooke will have 360 acre-feet of 1st priority entitlement with a priority date of 1910, 320 acre-feet of 4th priority with a priority date of 1983 and 120 acre-feet of 4th priority with a priority date of 2007.
E-1 to E-4	Appendix E	Table E 1	Text	For "ChaCha", give full entitlement holder name, which is CHACHA, LLC.
E-1 to E-4	Appendix E	Table E 1	Text	CVIDD's total 4th priority entitlement is 12,126 acre-feet, not 12,066 acre-feet. Also, the domestic water component of 300 acre-feet should be presented separately from the 11,826 acre feet that is available for irrigation purposes.
E-1 to E-4	Appendix E	Table E 1	Text	The contract (Contract No. 6-XX-30-W0450) for Fisher's Landing Water and Sewer Works, LLC for 53 acre-feet of 4th priority M&I entitlement has been executed.
E-1 to E-4	Appendix E	Table E 1	Text	Jessen Family Limited Partnership has an irrigation contract (Contract No. 00-XX-30-W0448) for 1,080 acre-feet.
E-1 to E-4	Appendix E	Table E 1	Text	MVIDD – 8,000 acre-feet would better represent the M&I component of the District's 4th priority entitlement. Present 8,000 acre-feet M&I component on separate line from 27,060 acre-feet for irrigation use.
E-1 to E-4	Appendix E	Table E 1	Text	North Baja – Display the 72 acre-feet M&I component on a separate line from North Baja's 408 acre-feet irrigation entitlement.
E-1 to E-4	Appendix E	Table E 1	Text	There is no amount displayed for the total unallocated 4th priority water. The amount is 11,487 acre-feet. As it will be used to cover existing and projected M&I uses, it should be characterized as M&I entitlement.
E-1 to E-4	Appendix E	Table E 1	Text	Revise the "Total" for this section (4th priority) according to recommended changes.
E-1 to E-4	Appendix E	Table E 1	Text	While the Harold Sturges and Erma Sturges Warren Act contracts may not have been terminated, the contract volumes were incorporated into the ASLD irrigation contract (Contract No. 4-07-30-W0317) for farm land that is located within the Gila Monster Ranch. If the contracts are not removed completely from the list, the entitlement amounts need to be removed.
E-1 to E-4	Appendix E	Table E 1	Text	Revise the "Total" for this section (2nd/3rd priority) according to recommended changes.
E-1 to E-4	Appendix E	Table E 1	Text	Revise the "Total" for this section (1st priority) according to recommended changes.
G-1	Appendix G	33-35	Text	There is not any mention of the Priority 4 lower Colorado River main stem users and shortage sharing between them and the CAP.
G-3	Appendix G	Table G 2	Text	There is no explanation on how the value of 1,729,907 under the "Consumptive Use Entitlement" is derived for the "Stage 1 Shortage". This is a critical value in the computation of the distribution of the shortages..
G-3	Appendix G	Table G 2	Text	The value under the "Deliverable Consumptive Use" column for Arizona should be 1,063,925 not 2,063,925 .
G-10	Appendix G	Table G 3	Text	In the "CAP Priorities Before 2044 (after Losses)" and "CAP Priorities After 2044 (After Losses)" sections of the, in the CAP 2 row, some of the values shown for the Indian priority water are incorrect. The value 343,097 should be 343,079 . The total of the values shown above the 291,574 acre-feet of Indian priority water should be 51,505 acre-feet not 51,415 acre-feet. GRIC subcontract entitlement listed as 11.305, should be 11,305 - appears twice in table. (PB)
G-14	Appendix G	18	Text	Text references the next 18,735 of shortage (11,305+7,430); Table G-3 total is 18,645 (11,305+7,340)
G-18	Appendix G	2-3	Text	"The consumptive use entitlement column above shows the potential Stage I and II Shortages for each state and Mexico." Change to: The consumptive use reduction column above shows the potential Stage I and Stage II Shortages for each state and Mexico.

Page	Chapter/ Section	Line(s)	Comment Type	Comment
G-20	Appendix G	Table G 9	Text	It would be easier to follow this table if the columns for "Adjusted Delivery" and "Shortage Allocation" were switched.
G-23	Appendix G	Table G 11	Text	The total allocations for CAP Indian priority water should total 343,079 acre-feet, not the 332,966 acre-feet shown in the "Entitlement" section.
G-25	Appendix G	Table G 12	Text	The Hopi Tribe irrigation entitlement that it acquired from CVIDD needs to be included in this Table.
G-25	Appendix G	Table G 12	Text	The Mohave County Water Authority entitlement is in the final stages of the process to convert it to an M&I use to meet the future increased water demands of Bullhead and Lake Havasu cities.
G-25	Appendix G	Table G 12	Text	Although priority 2 and 3 entitlements are considered coequal, the contractors listed under priority 2 should be correctly listed as priority 3.
G-26	Appendix G	Table G 12	Text	Harold and Irma Sturges contracts - Refer to the comment described above regarding the Harold and Irma Sturges contract inclusions in Appendix E, Table E-1.
G-26	Appendix G	Table G 12	Text	The "Arizona Total" values appear to be incorrect. This total and the "Total Ag by County" totals should be equal.
G-47	Appendix G	Table G 15	Text	The "Subtotal Values" in the "Arizona" section of this table do not appear equal the sum of the values for the various Arizona priority groups.
G-107	Appendix G	Table G 55	Text	How were CAP conveyance losses computed.
H-1	Appendix H	1-18	Text	The Salt-River Pima Maricopa Community, the Fort McDowell Indian Community, and the Chuichu District of the Tohono O'odham Nation are not listed.
H-4	Appendix H, H.3.1.	Table H 2	Text	Several values in this appear to be a negative cost of water. What does this mean?
M-8	Appendix M	10-18	Text	Text indicates that CBS includes voluntary, compensated reductions in water use that also create storage credits in Lake Mead. CBS may create compensated water use reductions OR create water storage in Lake Mead, but may not do both using the same water at the same time. Please add text that describes the timing of conservation savings, when storage occurs, and for how long before application to shortage.

or agreement pursuant to Section 2(b), the Ak-Chin Indian Community shall agree to waive, in a manner satisfactory to the Secretary, any and all claims of water rights or injuries to water rights of the Ak-Chin Indian Community, including both groundwater and surface water from time immemorial to the present, which it might have against the United States, the State of Arizona or agency thereof, or any other person, corporation, or municipal corporation, arising out of the laws of the United States or the State of Arizona." Sections 3 and 4(a), Public Law 95-328 (July 28, 1978).

The initial Water Settlement Act of 1978 contemplated delivery of water to Ak-Chin from off-reservation groundwater supplies. As it became apparent that that plan was not feasible, Ak-Chin and the federal government negotiated the 1984 Water Settlement Act. That Act required that "As soon as possible but not later than January 1, 1988, the Secretary shall deliver annually a permanent water supply from the main project works of the Central Arizona Project to the southeast corner of the Ak-Chin Indian Reservation of not less than seventy-five thousand acre-feet of surface water suitable for agricultural use except as otherwise provided under Subsections (b) and (c)."

Under Section 2(b) of the 1984 statute, the Secretary is required to "deliver such additional quantity of water as is requested by the Community not to exceed ten thousand acre-feet," if the Secretary makes a determination that there is "sufficient capacity available in the main project works of the Central Arizona Project to deliver such additional quantity."

Section 2(c) contains a provision for reduction of Ak-Chin's entitlement "in time of shortage." That Section provides that "If the aggregate supply of water referred to in Subsection (f) is not sufficient to deliver seventy-five thousand acre-feet, the Secretary may deliver a lesser quantity but in no event less than seventy-two thousand acre-feet."

Section 2(c) defines "time of shortage" as "a calendar year for the which the Secretary determines that a shortage exists pursuant to Section 301(b) of the Colorado River Basin Project Act of September 30, 1968 (Public Law 90-537), such that there is not sufficient Central Arizona Project water in that year to supply up to a limit of three hundred ninety thousand eight hundred twenty-eight acre-feet of water for Indian uses, and up to a limit of five hundred ten thousand acre-feet of water for non-Indian municipal and industrial uses."

According to Section 2(d) of the Act, the Secretary is required to deliver such water at a flow rate meeting "the seasonal requirements for agricultural use on the Reservation," not to exceed three hundred cubic feet per second.

Section 2(f) contains the sources of water to be used to satisfy the government's obligation under the Act.

Fifty thousand acre-feet of the surface water comes from water authorized by the Act of July 30, 1947 (61 Stat. 628) for beneficial consumptive use on the lands of the Yuma Mesa Division of the Gila Project. The balance of the water to satisfy the requirements of the statute comes from the Central Arizona Project, at CAP priority.

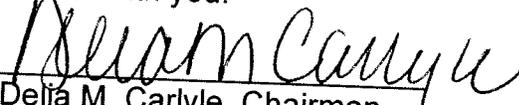
Under Section 2(j) of the Act, "The Ak-Chin Indian Community shall have the right to devote permanent water supply provided for by this Act to any use, including but not limited to agricultural, municipal, industrial, mining or recreational use."

Whereas the water legislation was initially crafted to diminish the possibility of groundwater depletion, the Act and resulting 1985 contract with the United States provide that, if shortages exist preventing delivery of water to Ak-Chin from either of the two surface water sources listed in the Act, Ak-Chin may pump groundwater sufficient to make up any such deficiency.

Nothing in the proposed EIS or any regulations adopted by the Secretary may vary the provisions of Ak-Chin's water settlement legislation, passed by Congress, including those specific provisions relating to receipt by Ak-Chin of water in time of shortage, or alternative groundwater supplies available to Ak-Chin in times of shortage. Ak-Chin will continue to monitor the treatment of Colorado River water to ensure compliance with all aspects of its settlement legislation.

Since most Arizona tribes receive Colorado River water, in one form or another, in settlement of their "federal reserved water rights" or *Winters* rights, Ak-Chin Indian Community urges the Bureau of Reclamation and the Secretary of Interior to attempt to arrive at regulations which will best protect the rights of the tribes to Colorado River and related water supplies. Water is the lifeblood of the tribes in Arizona and elsewhere in the Southwest, and as part of the Secretary's continuing obligation to protect trust resources of the tribes, special attention should be paid to ensure that no diminution of such trust assets will be caused by any new regulations governing shortage.

We will be happy to discuss Ak-Chin's position on the proposed EIS further with you.


Della M. Carlyle, Chairman
Ak-Chin Indian Community

Date: 4-20-07

From: Val Danos [VDanos@amwua.org]

Sent: Monday, April 30, 2007 2:41 PM

To: strategies@lc.usbr.gov

Subject: DRAFT EIS COMMENTS

Attachments: L-Colo River Shortage EIS.pdf

Dear Sir or Madame:

Attached are the comments of the Arizona Municipal Water Users Association for your information and review.

V.C. Danos P.E.

Arizona Municipal Water Users Association

4041 North Central Avenue - Suite 900

Phoenix, AZ 85012

Phone: 602-248-8482

Fax: 602-248-8423

arizona municipal water users association

4041 north central avenue • suite 900 • phoenix, arizona 85012 • phone • (602) 248-8482 • fax (602) 248-8423

April 30, 2007

Regional Director
Attn: BCOO-1000
Lower Colorado Region
U.S. Bureau of Reclamation
P.O. Box 61470
Boulder City, NV 89006

Dear Sir or Madame:

The Arizona Municipal Water Users Association (AMWUA) has reviewed the “Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead” (DEIS). For the reasons set forth in these comments, AMWUA supports selection of the Basin States Alternative as the preferred alternative in the final environmental impact statement and implementation of the Basin States Alternative through the final record of decision. Additionally, AMWUA endorses and supports the comments of the Arizona Department of Water Resources (ADWR) submitted on behalf of the State of Arizona.

Interest of AMWUA

The AMWUA members--the Arizona Cities of Avondale, Chandler, Goodyear, Glendale, Mesa, Peoria, Phoenix, Scottsdale and Tempe, and the Town of Gilbert--collectively represent 3.29 million persons, or over 87% of the population of Maricopa County, Arizona. The AMWUA members have allocations for Central Arizona Project (CAP) Municipal and Industrial (M&I) priority water totaling 297,267 acre-feet, which is 46% of the total allocation of 638,823 acre-feet of CAP M&I priority water. The CAP is vital to the continuing economic growth and health of central Arizona in general and the AMWUA members in particular. Consequently, the AMWUA members have an especial concern regarding the frequency and magnitude of shortages for the lower Colorado River basin.

AMWUA Supports the Basin States Alternative as the Preferred Alternative

The Basin States Alternative, developed by the seven Colorado River Basin States, is a compromise alternative acceptable to each of these States. In selecting the preferred alternative and finalizing the record of decision, the Secretary of the Interior (Secretary) should recognize the value of this unique compromise. The Basin States Alternative does not require any additional statutory authorization and it is the only alternative that can be implemented immediately after the Secretary issues the final record of decision.

The DEIS indicates, and the Bureau's presentation at the public hearings held in early April reiterated, that the Secretary's preferred alternative may be a hybrid of some or all of the alternatives identified in the DEIS. AMWUA does not support a hybrid of the DEIS alternatives. For example, a hybrid that prioritizes power generation over water supply is flawed or unacceptable for the reasons explained below. A hybrid alternative that provides for the land following provisions of the Conservation Before Shortage Alternative is problematic from a funding perspective since the DEIS does not indicate or analyze how a land following program described in the Conservation Before Shortage Alternative will be funded.

AMWUA Water Management Programs

The AMWUA members' location in the Sonoran Desert has historically required them to conservatively manage their water supplies. With enactment of the Arizona Groundwater Management Act of 1980 (GMA) and the GMA's restrictions on groundwater use, the AMWUA members initiated extensive and costly efforts to comprehensively:

- a. Evaluate the amount and reliability of their individual sources of renewable supplies;
- b. Augment their supplies; and,
- c. Develop and implement demand management programs related to both ongoing water conservation and drought response.

For decades, the AMWUA members have been actively planning and preparing to address water shortages. Indeed, the AMWUA members' water management plans are recognized nationally as models of effective planning to conserve water and ease the negative impacts of drought on the customers of municipal water systems. Adoption of the Basin States Alternative as the preferred alternative in the final environmental impact statement will provide the certainty necessary for the AMWUA members to continue the responsible planning necessary to address the adverse impacts that could occur during Colorado River shortages.

Record of Decision Guidelines

AMWUA's members expect and need the final record of decision to clearly and unambiguously set forth the guidelines that the Secretary will use to declare a shortage in the lower basin. The record of decision should identify and adopt guidelines consistent with implementation of the Basin States Alternative that the Secretary must follow in formulating each of the annual operating plans through 2026 to:

- a. Determine the conditions under which a shortage will be declared in the lower Colorado River basin;
- b. Determine the amount of water which will be released from Lake Powell to the lower basin;

- c. Determine how much of the shortage will be borne by each of the three lower basin States and Mexico; and,
- d. Determine how much of the Arizona shortage will be borne by each of the Priority 4 water contractors located in Arizona pursuant to the Arizona recommendations identified below in the Lower Basin Shortage Sharing section of this letter.

The Basin States Alternative requires that the record of decision acknowledge that the lower basin States must agree to the terms and conditions for forbearing, if necessary, their rights to delivery of Colorado River water in order to allow for the development, storage and delivery of any Intentionally Created Surplus (ICS) as defined by the DEIS. AMWUA would object if the Secretary issued a unilateral authorization that allowed for the creation of an ICS.

Finally, the record of decision should state that the Secretary will consult with the seven basin States if the Secretary is considering declaring a shortage to the lower basin States exceeding 500,000 acre-feet. The goal of this consultation should be to minimize the impacts on the lower basin States in general, and on Arizona and the CAP in particular.

Lower Basin Shortage Sharing

As contemplated by the Basin States Alternative, Arizona and Nevada have finalized and executed a Shortage Sharing Agreement dated February 9, 2007. The preferred alternative and the record of decision must be consistent with this Shortage Sharing Agreement.

In 2004, ADWR established an intrastate process involving all interested and affected parties in Arizona to develop an Arizona position regarding shortage sharing between the CAP and the other Arizona Priority 4 Colorado River contractors located along the River. The Arizona position regarding intrastate shortage sharing is described in the "Director's Shortage Sharing Workgroup Recommendation, October 24, 2006, (Revised) Final" and it is AMWUA's understanding that the October 24, 2006 Recommendation has been transmitted to the Bureau by ADWR prior to the issuance of the DEIS, and that another copy is being transmitted by ADWR in their comments on the DEIS. The preferred alternative and the record of decision must also be consistent with this Recommendation.

Statutory Considerations

The Secretary should not adopt an alternative that prioritizes power generation ahead of water supply. Historically, and contrary to law, the Bureau's models of Colorado River operations, the results of which have been used to develop the annual operating plans, have "protected" the minimum power pool at Lake Powell. Operation of Lakes Powell and Mead for generation of electrical energy at the expense of water supply is inconsistent with the provisions of the Colorado River Compact of 1922, the Boulder Canyon Project Act of 1928 and the Colorado River Storage Project Act of 1956. This reason alone argues against selection of the Reservoir Storage Alternative as the preferred alternative.

Like the Reservoir Storage Alternative, the Conservation Before Shortage Alternative requires statutory changes in order to be implemented. Creation of an ICS in Mexico would require a change in the 1944 water treaty between the United States and Mexico if the net effect is to provide for the delivery of water to Mexico in excess of the United States' treaty obligation. Moreover, any water released as a result of land fallowing in Arizona is subject to diversion by the CAP absent any agreement to forbear by the State of Arizona and the Central Arizona Water Conservation District (CAWCD).

The Yuma Desalting Plant

The DEIS analysis assumes that the Yuma Desalting Plant is not operating, thereby ignoring a water source of almost 100,000 acre-feet that could minimize the impact of future shortages. AMWUA's November 30, 2005 letter to the Bureau during the scoping process stated that the DEIS should assume full operation of the Yuma Desalting Plant, yet the DEIS does not indicate why the Bureau made the no operation assumption for the DEIS. Additionally, if there is an obligation to replace the bypass flows, then the final environmental impact statement should describe the obligation and cite the relevant requirement(s) establishing the obligation.

Economic Impacts on CAP Municipal Water Users

The DEIS is woefully inadequate in its explanation of the economic effects that would result from changes in deliveries of Colorado River water to municipal water users in Arizona. The DEIS all but dismisses these effects by concluding that "implementing statewide and local demand-side and supply-side strategies are expected to minimize adverse socioeconomic effects occurring during the maximum M&I shortage." (DEIS at p. 4-283)

As pointed out earlier, the AMWUA members have already taken aggressive and costly steps to address water shortages. Since enactment of the 1980 Groundwater Management Act, they have spent more than \$33 million on water conservation programs that include ordinances governing landscaping, plumbing retrofit rebate programs, leak detection and control programs, grant programs, and water rate increases. Consequently, the opportunity to make up for shortages in deliveries of CAP water through conservation programs is very limited.

Additionally, to ensure that adequate water supplies are available for their customers, the AMWUA members have also implemented comprehensive effluent reuse programs, adopted development impact fees, and established extensive recharge programs. All of these programs come at considerable expense. For example, the Arizona Water Bank (AWB) is storing water underground to firm the basic CAP M&I priority allocation. According to its 2006 Plan of Operation, the Arizona Water Banking Authority (AWBA) will have spent over \$62,000,000 through 2006 to store water in Maricopa County. These funds are a combination of ad valorem taxes collected in Maricopa County, pump taxes collected in the Phoenix Active Management Area, and a modest contribution from the State's general fund.

AMWUA members also rely on CAP Indian priority and CAP Non-Indian Agricultural priority water for a portion of their renewable water supplies. The members have been storing water independently of the AWB to firm this portion of their CAP supplies.

The AWBA and the CAWCD have been working with local interests to develop a plan for recovery of the water stored by the AWB. When the recovery plan is developed and finalized, there will be additional costs incurred to recover the stored water. Moreover, the AMWUA members will incur significant costs to replace the shortfall in their CAP Indian and NIA priority supplies.

In summary, it is incorrect to assume that the socioeconomic impacts on the AMWUA members from changes in deliveries of CAP water can be minimized in any material way by demand-side and supply-side strategies.

Other Issues

1. The final environmental impact statement should recognize that the Southern Nevada Water Authority is planning on modifying its intakes at Lake Mead to provide the capability to withdraw water at an elevation of 856 feet starting in 2011.
2. The final environmental impact statement should note that while the guidelines that are the subject of the DEIS are considered interim and expire at the end of 2026, the impacts, especially the economic impacts, will carry over post-2026.

We appreciate the opportunity to comment on the DEIS. For the record, this letter is being transmitted via email with a paper original to follow.

Sincerely,



Steven L. Olson
Executive Director

>>> "Joe Mulholland" <joe@powerauthority.org> 04/27/07 02:21PM >>>
Attached are the comment of the Arizona Power Authority on the Shortage and
Operations Guidelines for the Lower Basin of the Colorado River.

Joe Mulholland

April 30, 2007

Bureau of Reclamation
Attention: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

VIA EMAIL: strategies@lc.usbr.gov

The Arizona Power Authority (“Authority”) is a body, corporate and politic, of the State of Arizona established by Arizona Revised Statutes (A.R.S. 30-101 et seq.) on May 27, 1944, for the purpose, among others, of receiving the State of Arizona’s share of hydroelectric power generated at Hoover Dam and Powerplant. The Authority appreciates this opportunity to provide comments on the Bureau of Reclamation’s (Reclamation) draft environmental impact statement on the *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* (DEIS) (72FedReg. 9026-9028, February 28, 2007). In the event there is an extension of the comment period, or amendments to the DEIS, the Authority may supplement these comments at an appropriate later date.

Hoover power is the Authority’s only source of power, therefore, it has vital interest in the disposition of the waters of the Colorado River, especially the flow of the river south of Lee’s Ferry into the Lower Colorado River Basin. The Boulder Canyon Project Act of 1928 (43 U.S.C. 617 et Seq.) and all related laws amendatory or supplemental thereto, provide very specific instructions from the United States Congress to the Secretary of the Interior and onto the Bureau of Reclamation with respect to the operation of Hoover Dam, the management of the Colorado River into Lake Mead and the disposition of the Colorado River through and below Hoover Dam and its powerplant and the hydroelectric power produced therefrom.

The proposal for Reclamation or the Secretary of the Interior to assess an additional “surcharge” to the cost of hydroelectric power produced at Glen Canyon Dam and Hoover Dam powerplants is beyond the authority of either the Secretary or the Commissioner of Reclamation. The assessment of the Lower Colorado River Basin Development Fund (LCRBDF) charge was

specifically authorized by the Congress in the passage of the 1984 Hoover Power Plant Act.

Furthermore, the Secretary of Energy does not even have the authority to assess such a surcharge proposed in the DEIS as this falls outside DOE's legislative authority to set power rates for "cost of service" for generation and transmission of federal hydropower.

The proposed surcharge is not associated with the “cost of service” of generating federal hydropower at the afore mentioned dams and powerplants anymore than the LCRBDF charge is associated with the “cost of service” of Hoover, Davis or Parker Dams and their respective powerplants. Hence, the need for specific authorization in the 1984 Act.

The Authority supports the consensus process being undertaken by the Basin States in the development of the Basin States(BS) alternative. Further, the Authority also supports the comments and filed by the Colorado River Energy Distributors Association (CREDA) as filed on April 25, 2007 via EMAIL.

Thank you for the opportunity to comment on this DEIS.

Sincerely,

/s/ Joseph W. Mulholland

Joseph W. Mulholland
Executive Director
Arizona Power Authority
1810 West Adams Street
Phoenix, AZ 85007-697
(602) 542-4263

A710#719/comments LRC Draft EIS

>>> craigmorgan@avalex.info 04/30/07 4:41 PM >>>
Please find my attached comments

Craig W. Morgan P.E.

Avalex Inc.

P.O. Box 550218

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South Lake Tahoe, California 96150

(530) 543-3200

Fax (530) 543-3201

craigmorgan@avalex.info

VIA EMAIL

April 30, 2007

Bureau of Reclamation
Lower Colorado Region, Attention: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Re: Draft EIS - Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

The following comments are provided concerning the Draft Environmental Impact Statement (EIS) for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

On page ES-15 of the Executive Summary the statement is made that “With respect to other electrical power resource issues, the Water Supply Alternative has a higher potential for total loss of generation at the Glen Canyon Powerplant and the Hoover Powerplant than the other action alternatives and the No Action Alternative”. This seems obvious for Glen Canyon; however, it isn’t so obvious with respect to Hoover? The EIS should identify the basis for this statement.

Chapter 2 – Alternatives: The Draft EIS assesses four action alternatives: (1) Basin States Alternative, (2) Conservation Before Shortage Alternative, (3) Reservoir Storage Alternative, and (4) Water Supply Alternative. Each of these alternatives, with the exception of the Water Supply Alternative, includes a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead (i.e., intentionally created surplus). The omission of a mechanism for storage and delivery under this alternative is arbitrary and does not allow this alternative to be evaluated on an equal basis against the other alternatives. This is particularly evident with respect to the probability distributions concerning shortage occurrences presented in Chapter 4, where had such a mechanism been included in the Water Supply Alternative even fewer shortages would likely occur. The EIS should include an analysis of the Water Supply Alternative with a similar mechanism for the storage and delivery of water. Likewise, the No Action Alternative should also be evaluated with a similar mechanism for storage and delivery.

On page 2-5 in the discussion concerning the No Action Alternative, Table 2.2-1 shows that under a Stage II shortage California will take a 60-65 percent of the shortage. The basis for this conclusion or assumption should be identified in the EIS.

Similarly, on page 4-121, Table 4.4-11 shows different Lower Basin shortage volumes and the portion of the shortage that was assumed to be distributed to Arizona. Similar tables are subsequently provided for California and Nevada. The basis for these assumptions should be identified in the EIS.

Bureau of Reclamation
Lower Colorado Region
April 30, 2007
Page 2 of 2

Beginning on page 5-7, the EIS briefly discusses a number of proposed water supply projects of the SNWA that the proposed Colorado River Interim Guidelines would presumably facilitate. A complete description of these projects is needed to adequately assess the impact of the various shortage alternatives. Likewise, a more complete description of the Systems Conveyance and Operations Program (SCOP) is needed. It is unclear whether the water quality modeling performed in Chapter 4 of the EIS incorporates the SNWA water supply proposals and the SCOP, which it should if the analysis is to accurately assess the impacts of the various shortage alternatives.

Thank you for considering these comments.

Sincerely,

/c/ Craig W. Morgan

Craig W. Morgan, P.E.
Principal Engineer
Avalex Inc.

Cc: Michael Abatti
James Abatti

From: Tim Barnett [tbarnett-ul@ucsd.edu]
Sent: Friday, April 27, 2007 10:13 AM
To: strategies@lc.usbr.gov
Cc: tbarnett-ul@ucsd.edu
Subject: Objections: Colorado EIS

Importance: High

4/13/2007

TWIMC....

I was

>reviewing the USBR EIS* on operating rules for the Colorado in times of
>water shortage. The results of that EIS are
practically useless and, if implemented, will put the public interest at risk. My reasons
for this statement are as follows:

>Essentially, they use a river/reservoir model forced by 50 years chunks
>of actual Colorado River flow. These runs under different river flow
>scenarios are used to estimate the likely range of future levels of
>Lake Mead (say); the probability the Lake will be full or empty. In
>fact, their simulations show a disturbingly large range of
>possibilities from full pool to a level near dead pool. Just how the
>Lake is operated depends on these probabilistic estimates of future
>elevation.

>

> But the analysis done by USBR to date and the one on which the
>EIS is omits one huge factor. Essentially, their analysis to date
>assumes the past climatic variations in rainfall, snow levels,
>evaporation, etc are good estimates of what the future will be
>like·past river flows are good estimates of future river flows. In
>their case, this is a fatal error that, in my view, negates the basis
>of the EIS.

>Numerous studies over the last 10 years have shown the climate of the
>Colorado drainage will change markedly in the next few decades (it is
>already!). There will be less rain, snow pack will disappear earlier,
>increase temperatures will increase evaporation, etc. In short, the
>EIS is defined for the past, not the future. As such it is largely
>unreliable for decision makers.

>

> I believe the model forcing changes could be estimated from
>existing information. They could be added to the existing simulations
>and the whole probability structure of future possibilities be made
>available to decision makers·at least then we would be taking a fairly
>realistic look at the future of the Colorado system under the climate
>change scenario. Given that the system is uncomfortably close to
>failure now, we need the best look at what to expect.

>

> One other item along the same lines:

>while USBR talks about inflow, outflow, etc in the EIS, they never
>factor in increasing population. The 20 million more folks expected to
>rely on Colorado water by 2030 will need something like 3 maf MORE than
>is required today. This is order 20-30% the typical inflow to Lake
>Powell today. And as we have seen, numerous studies all show that
>inflow will decrease in a greenhouse world. So where does that extra
>water come from?

Thank you for your consideration. Dr. Tim Barnett, Climate research Div, Scripps Inst
Oceanography, La Jolla, CA

>

>

>

>* Draft EIS Feb, 2007. Colorado River Interim Guidelines for lower
>Basin shortages and coordinated operations for Lakes Mead and Powell.

>--

From: John.Entsminger@lvvwd.com

Sent: Monday, April 30, 2007 7:44 AM

To: astephens@az.gov; bart@fisherranch.com; bill.rinne@snwa.com;
bjohnson@usbr.gov; csharris@crb.ca.gov; dana.smith@snwa.com;
dennisstrong@utah.gov; dostler@uc.usbr.gov; David.Donnelly@lvvwd.com;
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pvonhaam@mwdh2o.com; randy.seaholm@state.co.us; rgold@uc.usbr.gov;
rhoffman@lawssd.com; robertking@utah.gov; rod.kuharich@state.co.us;
rpatterson@mwdh2o.com; rwbunker@cox.net; sabbott@redwineandsherrill.com;
scott@balcombgreen.com; sfarris@ago.state.nm.us; srobbins@cvwd.org;
ssomach@lawssd.com; swilson@cap-az.com; tanya.trujillo@state.nm.us;
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thenley1@cox.net; tjhenley@azwater.gov; tmccann@cap-az.com;
whasencamp@mwdh2o.com; whswan@aolcom@lvvwd.com; wpschiffer@azwater.gov
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darlene.fanizzi@lvvwd.com; dena.crist@state.co.us;
drivera@contractors.sdca.org; druiz@lc.usbr.gov; dshockey@uc.usbr.gov;
friend@water.ca.gov; geraleemurdock@utah.gov; gswinters@azwater.gov;
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jnuszbaum@crc.nv.gov; judiroberts@utah.gov; katonoghue@azwater.gov;
kcotner@ago.state.nm.us; kdaly@uc.usbr.gov; krayme@seo.wyo.gov;
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tgomm@uc.usbr.gov; tmarapoulos@mwdh2o.com; trish.daws@lvvwd.com;
vbarrio@mwdh2o.com

Subject: Final Colorado River Documents

Attachments: 1 Transmittal Letter.PDF; A 7States K.PDF; B Proposed Interim Guidelines FINAL 4.23.07.pdf; C Final Forbearance Agreement 1.30.07.pdf; D AZ-NV Shortage Sharing.PDF

Basin States' Representatives,

Attached please find:

1. An executed copy of the April 30, 2007 letter to Secretary Kempthorne;
2. An executed copy of the Basin States' Agreement;
3. Proposed Interim Guidelines for Colorado River Operations as Attachment B;
4. Lower Basin Forbearance Agreement as Attachment C; and
5. Arizona-Nevada Shortage Sharing Agreement as Attachment D.

Thanks to each of you for your help in finalizing these documents,

John

(See attached file: 1 Transmittal Letter.PDF) (See attached
file: A 7States K.PDF) (See attached file: B Proposed Interim
Guidelines FINAL 4.23.07.pdf) (See attached file: C Final
Forbearance Agreement 1.30.07.pdf) (See attached file: D AZ-NV
Shortage Sharing.PDF)

**The States of Arizona, California, Colorado, Nevada,
New Mexico, Utah and Wyoming
Governors' Representatives on Colorado River Operations**

April 30, 2007

Honorable Dirk Kempthorne, Secretary
Department of the Interior
1849 C. Street, NW
Washington, D.C. 20240

Re: Basin States' Comments on *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Dear Secretary Kempthorne:

Thank you for the opportunity to comment on the *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* (72 Fed. Reg. 9,026) (Feb. 28, 2007) (hereinafter "DEIS"). The Basin States emphasize that the Basin States' Alternative best meets critical elements of the purpose and need statement articulated in the DEIS. It does so by giving water managers the certainty to engage in meaningful long-range planning while also promulgating programs to increase operational and resource management flexibility on the River. This is particularly important given the impacts of the drought on the Colorado River system over the last seven years and the uncertain hydrology going forward. Thus, the Basin States strongly encourage you to select the Basin States' Alternative analyzed in the DEIS, together with the modifications outlined in this letter and the included attachments ("Basin States' Proposal"), as the preferred alternative in the Final Environmental Impact Statement ("FEIS") and the selected action in the Record of Decision ("ROD").

Basin States' Proposal

The Basin States have made tremendous progress over the last two years in setting aside contentious issues and reaching agreements regarding operation of the Colorado River system reservoirs. Since the Basin States originally forwarded a Preliminary Proposal and draft Seven States' Agreement to your predecessor on February 3, 2006 ("Preliminary Proposal"), the Basin States have finalized a number of agreements and proposals. These documents, which are described in detail below, incorporate and give further definition to each of the elements of the Preliminary Proposal and the Basin States' Alternative in the DEIS. The Basin States believe that if all material terms of the Basin States' Proposal are included in the ROD, it will establish the first comprehensive set of detailed operating guidelines in the history of the Colorado River.

The Basin States' Proposal consists of the following documents:

1. Agreement Concerning Colorado River Management and Operations (Attachment "A"). This agreement among major Colorado River water interests in all seven states that share the River system is the foundation document in the Basin States' Proposal. This agreement memorializes the consensus recommendation to the Secretary for Colorado River management and operations during an interim period, sets forth agreements regarding pursuit of system augmentation and efficiency projects, and establishes a rigorous process for the resolution of claims and controversies between the parties in an effort to set aside long standing disputes on the River.
2. Proposed Interim Guidelines for Colorado River Operations (Attachment "B"). Building upon the Preliminary Proposal, the Basin States have drafted a comprehensive set of guidelines to govern Colorado River operations during the interim period. If adopted, these proposed guidelines would: (1) replace the Interim Surplus Guidelines; (2) establish guidelines for coordinated operations for Lakes Powell and Mead; (3) establish shortage guidelines for use within the United States; and (4) establish parameters for the creation and release of Intentionally Created Surplus ("ICS") and Developed Shortage Supplies ("DSS").
3. Forbearance Agreement (Attachment "C"). This draft agreement among the Lower Division States and major water users within those states recognizes that, in the absence of forbearance by the parties, surplus water is apportioned for use according to the percentages provided in Article II(B)(2) of the Consolidated Decree in *Arizona v. California*. The execution of this agreement will facilitate implementation of the ICS program.
4. Shortage Sharing Agreement between Arizona and Nevada (Attachment "D"). As anticipated by the Basin States' February 3, 2006 Preliminary Proposal, Arizona and Nevada have executed a Shortage Sharing Agreement premised upon the Secretary's reductions in deliveries within the United States of 333,000, 417,000 and 500,000 acre-feet per year based upon specific Lake Mead elevations.
5. Delivery Agreement. It will be necessary for the Secretary to enter into one or more agreements that enable and obligate the United States to deliver ICS and DSS to entities that create ICS or DSS in conformance with relevant provisions of the Guidelines and the Forbearance Agreement. At this time, the Basin States are developing a draft delivery agreement for the Department of the Interior's ("Interior") consideration and look forward to working with Interior on drafting one or more agreements that can be executed concurrently with the issuance of the ROD. The Basin States request that the U.S. Bureau of Reclamation ("Reclamation") include appropriate analysis of the

anticipated execution of one or more agreements to deliver ICS or DSS within the preferred alternative in the FEIS and the selected action in the ROD.

Implementation of any alternative that does not include all material terms of the Basin States' Proposal will carry with it a significant degree of uncertainty given that the Basin States' Agreement, Forbearance Agreement and Arizona-Nevada Shortage Sharing Agreement are each contingent upon the issuance of a ROD that is consistent with the material terms of those agreements. These agreements make it possible for components of the proposed action, such as coordinated management of Lakes Mead and Powell and the creation and release of ICS, to be implemented without adversarial actions involving the Basin States and major water users on the Colorado River.

Reduced Deliveries to Mexico

Recent negotiations among the Basin States and major water users in those states have involved multiple issues of critical importance to the Basin States. However, in the course of these negotiations no issue has surpassed the importance of how the United States exercises its authority to reduce the quantity of water allotted to Mexico under Article 10(a) of the Mexican Water Treaty of 1944.

In the Preliminary Proposal the Basin States recommended that the Secretary reduce deliveries from Lake Mead by 400,000, 500,000 and 600,000 acre-feet per year within the United States and Mexico at certain Lake Mead elevations. In accordance with the Preliminary Proposal, Arizona and Nevada have executed a Shortage Sharing Agreement premised upon the imposition by the Secretary of shortages within the United States of 333,000, 417,000 and 500,000 acre-feet per year at the same Lake Mead elevations contained in the Preliminary Proposal. For the first 600,000 acre-feet per year of any reductions in deliveries in any year due to a declared shortage, the Basin States have agreed that Arizona and Nevada will not take more than 500,000 acre-feet per year in aggregate and California will not take any reductions. The DEIS substantially incorporates the assumptions contained in the Preliminary Proposal, the Basin States' Agreement and the Shortage Sharing Agreement into its consideration and analysis of the Basin States' Alternative.

Due to the critical nature of this issue, the Basin States believe that the Secretary should include these assumptions as part of the preferred alternative in the FEIS and the selected action in the ROD. The Basin States strongly urge the United States to exercise its authority to reduce the quantity of water allotted to Mexico in years in which the Secretary imposes shortages in deliveries of water from Lake Mead in the United States in a quantity consistent with the assumptions in the DEIS, and in other appropriate circumstances.

Mexican Participation in ICS Program

The Basin States support the concept of Mexico participating in the ICS program at some time in the future, provided that its participation is addressed in the context of other river

operation matters and is part of a comprehensive arrangement between the two nations that incorporates, at a minimum, the material terms of the Basin States' Proposal. The Basin States stand ready to discuss this comprehensive arrangement.

Colorado River Augmentation Projects

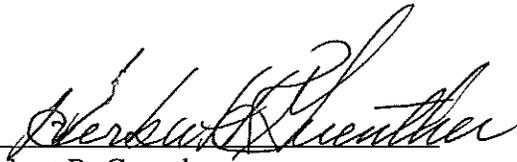
Implementation of projects to augment the long-term supply of the Colorado River is of utmost importance not only to the Basin States and the millions of people who live here, but to the nation as a whole. While no specific augmentation projects are included in the current Basin States' Proposal, the need to develop a process to implement augmentation projects must remain at the forefront of the Basin States' and Interior's agendas. Changes to existing or new federal regulations may be necessary to effectuate augmentation projects.

The Preliminary Proposal outlined a concept for water users in Arizona, California, or Nevada to secure additional water supplies by funding the development of a non-Colorado River System water supply in one Lower Division State for use in another Lower Division State by exchange. Through the cooperation of the International Boundary and Water Commission, United States and Mexico, similar arrangements could be established by which non-Colorado River System water supplies in Mexico could be developed for use in the United States by exchange.

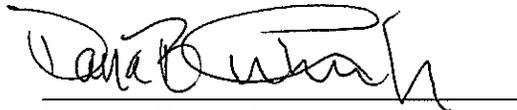
The Basin States view the inclusion in the DEIS of a quantitative analysis of the impacts to the Colorado River resulting from the implementation of future augmentation projects as a positive step and encourage you to include the same analysis in the FEIS in order to begin to establish the environmental compliance framework for future augmentation projects.

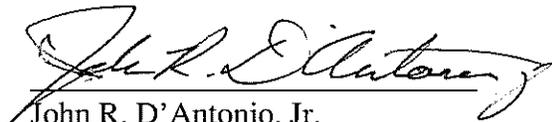
Conclusion

In closing, the Basin States thank you for your leadership and urge Interior to adopt a ROD that includes all of the material terms of the Basin States' Proposal.

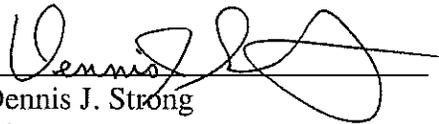

Herbert R. Guenther
Director
Arizona Department of Water Resources


Patricia Mulroy
General Manager
Southern Nevada Water Authority

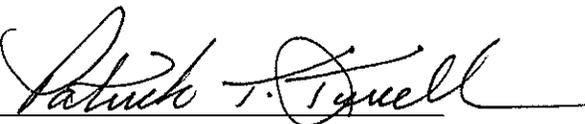

Dana B. Fisher, Jr.
Chairman
Colorado River Board of California

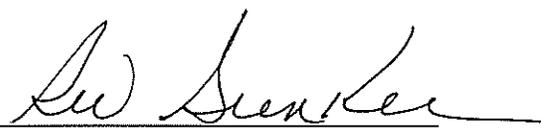

John R. D'Antonio, Jr.
Secretary
New Mexico Interstate Stream Commission


Scott Balcomb
Governor's Representative
State of Colorado


Dennis J. Strong
Director
Utah Division of Water Resources
Utah Interstate Stream Commissioner


Rod Kuharich
Director
Colorado Water Conservation Board


Patrick T. Tyrrell
State Engineer
State of Wyoming


Richard W. Bunker
Chairman
Colorado River Commission of Nevada

Attachments

- c: Robert W. Johnson, Commissioner, U. S. Bureau of Reclamation
- Rick Gold, Regional Director, U. S. Bureau of Reclamation, Upper Colorado
Regional Office
- Jayne Harkins, Acting Regional Director, U. S. Bureau of Reclamation, Lower
Colorado Regional Office
- Larry Walkoviak, Deputy Regional Director, U. S. Bureau of Reclamation, Lower
Colorado Regional Office

AGREEMENT CONCERNING COLORADO RIVER MANAGEMENT AND OPERATIONS

This Agreement is entered into effective as of April 23, 2007, by and among the Arizona Department of Water Resources; Colorado River Board of California; Colorado Water Conservation Board; Governor's Representative for the State of Colorado; Colorado River Commission of the State of Nevada; Southern Nevada Water Authority; New Mexico Interstate Stream Commission; Utah Division of Water Resources; Utah Interstate Stream Commissioner; and Wyoming State Engineer.

RECITALS

A. Parties.

1. Arizona.

- a. The Arizona Department of Water Resources, through its Director, is the successor to the signatory agency of the State for the 1922 Colorado River Compact, and the 1944 Contract for Delivery of Water with the United States, both authorized and ratified by the Arizona Legislature, A.R.S. §§ 45-1301 and 1311. Pursuant to A.R.S. §§ 45-107, the Director is authorized and directed, subject to the limitations in A.R.S. §§ 45-106, for and on behalf of the State of Arizona, to consult, advise and cooperate with the Secretary of the Interior of the United States with respect to the exercise by the Secretary of Congressionally authorized authority relative to the waters of the Colorado River (including but not limited to the Boulder Canyon Project Act, 43 U.S.C. § 617, and the 1968 Colorado River Basin Project Act, 43 U.S.C. § 1501) and with respect to the development, negotiation and execution of interstate agreements. Additionally, under A.R.S. § 45-105(A)(9), the Director is authorized to "prosecute and defend all rights, claims and privileges of this state respecting interstate streams."
- b. Under A.R.S. § 11-951 et. seq., the Director is authorized to enter into Intergovernmental Agreements with other public agencies, which includes another state; departments, agencies, boards and commissions of another state; and political subdivisions of another state.

2. California. The Chairman of the Colorado River Board of California, acting as the Colorado River Commissioner pursuant to California Water Code section 12525, has the authority to exercise on behalf of California every right and power granted to California by the Boulder Canyon Project Act, and to do and perform all other things necessary or expedient to carry out the purposes of the Colorado River Board.

3. Colorado.

- a. Section 24-1-109, Colorado Revised Statutes (2005) provides that “Interstate compacts authorized by law shall be administered under the direction of the office of the governor.” This includes the Colorado River Compact and the Upper Colorado River Basin Compact. Section 37-60-109 provides that “the governor from time to time, with approval of the board, shall appoint a commissioner, who shall represent the state of Colorado upon joint commissions to be composed of commissioners representing the state of Colorado and another state or other states for the purpose of negotiating and entering into compacts or agreements between said states...” By letter dated April 12, 2006, the Governor appointed Upper Colorado River Commissioner Scott Balcomb to represent the State of Colorado.
- b. Section 37-60-106, subsections (e) and (i), C.R.S. (2005), authorize the Colorado Water Conservation Board to “cooperate with the United States and the agencies thereof, and with other states for the purpose of bringing about the greater utilization of the water of the state of Colorado and the prevention of flood damages,” and “to confer with and appear before the officers, representatives, boards, bureaus, committees, commissions, or other agencies of other states, or of the federal government, for the purpose of protecting and asserting the authority, interests, and rights of the state of Colorado and its citizens with respect to the waters of the interstate streams in this state.” Therefore, by statute the Director of the Colorado Water Conservation Board is authorized to negotiate with and enter into agreements with other state entities within the Colorado River Basin.

4. Nevada.

- a. The Colorado River Commission of Nevada (CRCN) is an agency of the State of Nevada, authorized generally by N.R.S. §§ 538.041 and 538.251. CRCN is authorized by N.R.S. § 538.161 (6), (7) to enter into this Agreement. The CRCN, in furtherance of the State of Nevada’s responsibility to promote the health and welfare of its people in Colorado River matters, makes this Agreement to supplement the supply of water in the Colorado River which is available for use in Nevada, augment the waters of the Colorado River, and facilitate the more flexible operation of dams and facilities by the Secretary of the Interior of the United States. The Chairman of the Commission, signatory hereto, serves as one of the Governor’s representatives as contemplated by Section 602(b) of the 1968 Colorado River Basin Project Act, 43 U.S.C. § 1552(b) and the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act.

- b. The Southern Nevada Water Authority (SNWA) is a Nevada joint powers agency and political subdivision of the State of Nevada, created by agreement dated July 25, 1991, as amended November 17, 1994 and January 1, 1996, pursuant to N.R.S. §§ 277.074 and 277.120. SNWA is authorized by N.R.S. § 538.186 to enter into this Agreement and, pursuant to its contract issued under section 5 of the Boulder Canyon Project Act of 1928, SNWA has the right to divert “supplemental water” as defined by NRS § 538.041 (6). The General Manager of the SNWA, signatory hereto, serves as one of the Governor’s Representatives as contemplated by Section 602(b) of the 1968 Colorado River Basin Project Act, 43 U.S.C. § 1552(b) and the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act.
5. New Mexico. Pursuant to NMSA 1978, 72-14-3, the New Mexico Interstate Stream Commission is authorized to investigate water supply, to develop, to conserve, to protect and to do any and all other things necessary to protect, conserve and develop the waters and stream systems of the State of New Mexico, interstate or otherwise. The Interstate Stream Commission also is authorized to institute or cause to be instituted in the name of the State of New Mexico any and all negotiations and/or legal proceedings as in its judgment are necessary. By Resolution dated January 24, 2007, the Interstate Stream Commission authorizes the execution of this Agreement.
6. Utah. The Division of Water Resources (DWR) is the water resource authority for the State of Utah. Utah Code Ann. § 73-10-18. The Utah Department of Natural Resources Executive Director (Department), with the concurrence of the Utah Board of Water Resources (Board), appoints the DWR Director (Director). § 63-34-6(1). The Board makes DWR policy. § 73-10-1.5. The Board develops, conserves, protects, and controls Utah waters, § 73-10-4(4), (5), and, in cooperation with the Department and Governor, supervises administration of interstate compacts, § 73-10-4, such as the Colorado River Compact, §§ 73-12a-1 through 3, and the Upper Colorado River Basin Compact, § 73-13-10. The Board, with Department and Gubernatorial approval, appoints a Utah Interstate Stream Commissioner, § 73-10-3, currently the DWR Director, to represent Utah in interstate conferences to administer interstate compacts. §§ 73-10-3 and 73-10-4. These delegations of authority authorize the Utah Interstate Stream Commissioner/DWR Director to sign this document. He acts pursuant to a Board resolution, acknowledged by the Department, dated March 7, 2007.
7. Wyoming. Water in Wyoming belongs to the state. Wyo. Const. Art. 8 § 1. The Wyoming State Engineer is a constitutionally created office and is Wyoming’s chief water official with general supervisory authority over the waters of the state. Wyo. Const. Art. 8 § 5. The Wyoming legislature conferred upon Wyoming officers the authority to cooperate with and assist

like authorities and entities of other states in the performance of any lawful power, duty, or authority. Wyo. Stat. Ann. § 16-1-101 (2005). Wyoming and its State Engineer represent the rights and interests of all Wyoming appropriators with respect to other states. *Wyoming v. Colorado*, 286 U.S. 494 (1922). See *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938). In signing this Agreement, the State Engineer intends that this Agreement be mutually and equally binding between the Parties.

B. Background.

1. Federal law and practice (including Section 16 of the Boulder Canyon Project Act, 43 U.S.C § 617o and Section 602(b) of the 1968 Colorado River Basin Project Act, 43 U.S.C. § 1552(b), and the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act), contemplate that in the operation of Lakes Powell and Mead, the Secretary of the Interior consults with the States through Governors' Representatives, who represent the Governors and their respective state agencies. Through this law and practice, the Governors' Representatives and state agencies have in the past reached agreements among themselves and with the Secretary on various aspects of Colorado River reservoir operation. This Agreement is entered into in furtherance of this law and practice.
2. On January 16, 2001, the Secretary adopted Colorado River Interim Surplus Guidelines (ISG) based on an alternative prepared by the Colorado River Basin States, for the purposes of determining annually the conditions under which the Secretary would declare the availability of surplus water for use within the states of Arizona, California and Nevada in accordance with and under the authority of the Boulder Canyon Project Act of 1928 (45 Stat. 1057) and the Decree of the United States Supreme Court in *Arizona v. California*, 376 U.S. 340 (1964), as amended and supplemented. The ISG are effective through calendar year 2015 (through preparation of the 2016 Annual Operating Plan).
3. In the years following the adoption of the ISG, drought conditions in the Colorado River Basin caused a significant reduction in storage levels in Lakes Powell and Mead, and precipitated discussions by and among the Parties, and between the Parties and the United States through the Department of the Interior and the Bureau of Reclamation. The Parties recognize that the Upper Division States have not yet developed their full apportionment under the Colorado River Compact. Although the Secretary has not imposed any shortage in the Lower Basin, the Parties also recognize that with additional Upper Basin development and in drought conditions, the Lower Division States may be required to suffer shortages in deliveries of water from Lake Mead. Therefore, these discussions focused on ways to improve the management of water in Lakes Powell and Mead so as to enhance the

protection afforded to the Upper Basin by Lake Powell, and to delay the onset and minimize the extent and duration of shortages in the Lower Basin.

4. On May 2, 2005, the Secretary announced her intent to undertake a process to develop Lower Basin shortage guidelines and explore management options for the coordinated operation of Lakes Powell and Mead. On June 15, 2005, the Bureau of Reclamation published a notice in the Federal Register, announcing its intent to implement the Secretary's direction. The Bureau of Reclamation has proceeded to undertake scoping and develop alternatives pursuant to the National Environmental Policy Act (the NEPA Process), which the Parties anticipate will form the basis for a ROD to be issued by the Secretary by December 2007.
5. On August 25, 2005, the Parties wrote a letter to the Secretary expressing conceptual agreement in the development and implementation of three broad strategies for improved management and operation of the Colorado River: Coordinated Reservoir Management and Lower Basin Shortage Guidelines; System Efficiency and Management; and Augmentation of Supply.
6. On February 3, 2006, the Parties transmitted to the Secretary their recommendation for the scope of the NEPA Process (Preliminary Proposal), which refined many of the elements outlined in the August 25, 2005 letter.
7. In February 2007, the Secretary issued a Draft Environmental Impact Statement (DEIS) pursuant to the NEPA Process. The DEIS includes an alternative, called the Basin States' Alternative, that is based on the recommendations of the Parties.
8. At the request of the Secretary, the Parties have continued their discussions relative to the areas of agreement outlined in the letters of August 25, 2005 and February 3, 2006, and the DEIS, and have agreed on: a) additional actions for their mutual benefit designed to augment the supply of water available for use in the Colorado River System and improve the management of water in the Colorado River; b) recommendations to the Secretary for adoption as the preferred alternative in the Final Environmental Impact Statement and in the ROD; and c) consultation processes among themselves, and consultation recommendations to the Secretary for incorporation into the ROD.

C. Purpose. The Parties intend that the actions by them contemplated in this Agreement will: improve cooperation and communication among them; provide additional security and certainty in the water supply of the Colorado River System for the benefit of the people served by water from the Colorado River System; and avoid circumstances which could otherwise form the basis for claims or controversies over interpretation or implementation of the Colorado River Compact and other applicable provisions of the law of the river.

AGREEMENT

In consideration of the above recitals and the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Recitals. The Recitals set forth above are material facts that are relevant to and form the basis for the agreements set forth herein.

2. Definitions. As used in this Agreement, the following terms have the following meanings:

A. Colorado River System. This term shall have the meaning as defined in the Colorado River Compact.

B. ISG. The Colorado River Interim Surplus Guidelines adopted by the Secretary on January 16, 2001, as modified by the ROD.

C. NEPA Process. The decision-making process pursuant to the National Environmental Policy Act, 42 U.S.C. §§ 4321 through 4347, beginning with the Bureau of Reclamation's Notice to Solicit Comments and Hold Public Meetings, 70 Fed. Reg. 34794 (June 15, 2005) and culminating in a Record of Decision.

D. Party or Parties. Any party or parties to this Agreement.

E. Parties' Recommendation. The Seven Basin States' comments on the DEIS transmitted to the Secretary of the Interior on or before April 30, 2007.

F. ROD. The Record of Decision anticipated to be issued by the Secretary after completion of the NEPA Process including but not limited to any interim guidelines promulgated pursuant thereto.

G. Secretary. The Secretary of the Interior or the Bureau of Reclamation, as applicable.

H. State or States. Any of the states of Arizona, California, Colorado, Nevada, New Mexico, Utah or Wyoming, as context requires.

3. Support for Parties' Recommendation.

A. After considering a number of alternatives, each Party has determined that the Parties' Recommendation is in the best interests of that Party, and promotes the health and welfare of that Party and of the Colorado River Basin States. The Parties support the Secretary's incorporation of the Parties'

Recommendation and this Agreement into the ROD, as appropriate to effectuate the material terms of the Parties' Recommendation. If during the course of the NEPA Process any new information becomes available which causes any Party, in its sole and absolute discretion, to reassess any provision of the Parties' Recommendation and this Agreement, that Party shall immediately notify all other Parties in writing. The Parties shall jointly consult and, if they agree to any modification of the Parties' Recommendation or this Agreement, shall consult with the Secretary to advise him/her of such modification and request the adoption thereof in the ROD.

- B. If after such consultations it is apparent there is an irreconcilable conflict between the Parties as to such modification, then any Party may upon written notice to the other Parties withdraw from this Agreement, and in such event this Agreement shall no longer be effective or binding upon such withdrawing Party. All withdrawing Parties hereby reserve all rights upon withdrawal from this Agreement to take such actions, including support of or challenges to the ROD, as they in their sole and absolute discretion deem necessary or appropriate. In the event of the withdrawal of any one or more Parties from this Agreement, this Agreement shall continue in full force and effect as to the remaining Parties. The remaining Parties may consult to determine whether to continue this Agreement in effect, to amend this Agreement, or to terminate this Agreement. In the event of termination, all Parties shall be relieved from the terms hereof, except as provided in Paragraph 10, and this Agreement shall be of no further force or effect.

4. ROD Consistent with the Parties' Recommendation and this Agreement. In the event the Secretary adopts a ROD in substantial conformance with the Parties' Recommendation and this Agreement, the Parties shall take all necessary actions to implement the terms of the ROD, including the approval and execution of agreements necessary for such implementation.

5. ROD Inconsistent with the Parties' Recommendation and this Agreement. In the event the Secretary adopts a ROD that any Party, in its sole and absolute discretion, determines is not in substantial conformance with the Parties' Recommendation and this Agreement, such Party shall immediately notify all other Parties of such determination in writing. The Parties shall jointly consult, and consult with the Secretary as necessary, in order to determine whether the ROD is in substantial conformance with the Parties' Recommendation and this Agreement, or whether any action, including the amendment of this Agreement, may resolve such concern. If after such consultation it is apparent there is an irreconcilable conflict between the ROD and the concerns of such Party, then such Party may upon written notice to the other Parties withdraw from this Agreement, and in such event this Agreement shall no longer be effective or binding upon such withdrawing Party. All withdrawing Parties hereby reserve all rights upon withdrawal from this Agreement to take such actions, including support of or challenges to the ROD, as they in their sole and absolute discretion deem necessary or appropriate. In the event of the withdrawal of any one or more Parties from this Agreement, this Agreement shall

continue in full force and effect as to the remaining Parties. The remaining Parties may consult to determine whether to continue this Agreement in effect, to amend this Agreement, or to terminate this Agreement. In the event of termination, all Parties shall be relieved from the terms hereof, except as provided in Paragraph 10, and this Agreement shall be of no further force or effect.

6. Additions to the ROD. The Parties hereby request that the Secretary recognize the specific provisions of this Agreement as part of the NEPA Process and include in the ROD specific provisions that reference this Agreement as a basis for the ROD. The Parties also hereby request that the Secretary include in the ROD the following specific provisions:

- A. The Secretary will first consult with all the States before making any substantive modification to these guidelines.
- B. Upon a request by a State for modification of these guidelines, or upon a request by a State to resolve any claim or controversy arising under: i) the Agreement Concerning Colorado River Management and Operations; ii) these Guidelines; iii) the operations of Lakes Powell and Mead pursuant to these guidelines; or, iv) any other applicable provision of federal law, regulation, criteria, policy, rule or guideline, or the Mexican Water Treaty of 1944, the Secretary shall invite the Governors of all the Basin States, or their designated representatives, to consult with the Secretary in an attempt to resolve such claim or controversy by mutual agreement.
- C. In the event projections included in any Bureau of Reclamation monthly 24 Month Study indicates Lake Mead elevations may approach an elevation that would trigger shortages in deliveries of water from Lake Mead in the United States, the Secretary shall consult with all the States on how the United States shall reduce the quantity of water allotted to Mexico.

7. Consultation on Operations. After the Secretary commences operating Lakes Powell and Mead pursuant to the ROD, the Parties shall consult among themselves as necessary, but at least annually, to assess such operations. Any Party may request consultation with the other Parties on a proposed adjustment or modification of such operations, based on changed circumstances, unanticipated conditions, or other factors. Upon such request, the Parties shall consult in good faith with each other to resolve any such issues, and based thereon may request consultation by the States with the Secretary on adjustments to or modifications of operations under the ROD. In any event, the Parties shall initiate consultations before December 31, 2020, to determine whether to extend this Agreement and recommend that the Secretary continue operations under the ROD for an additional period, or modify this Agreement and recommend that the Secretary modify operations under the ROD, or terminate this Agreement and recommend that the Secretary not continue operations under the ROD after the expiration thereof. Any extension of this Agreement and any recommendation by the Parties to the Secretary to extend or modify operations under the ROD shall be made by unanimous

consent of the Parties. If such extension and recommendation are not made, this Agreement shall terminate in accordance with Paragraph 16.

8. Development of Interim Water Supplies, System Augmentation, System Efficiency and Water Enhancement Projects. The Parties agree to diligently pursue interim water supplies, system augmentation, system efficiency and water enhancement projects within the Colorado River System. The term "system augmentation" includes the quantifiable addition of new sources of supply to the Colorado River Basin, including importation from outside the Basin or desalination of ocean water or brackish water. The term "system efficiency" includes efficiency projects in the Lower Basin that will result in the more efficient use of existing supplies, such as in-system storage and enhanced management. The term "water enhancement" includes projects that may increase available system water, including cloud seeding and non-native vegetation management. Due to the critical importance of implementing these projects in reducing the potential for shortages, the Parties shall continue to jointly pursue the study and implementation of such projects, and to regularly consult on the progress of such projects.

Specifically, the Parties agree to cooperatively pursue an interim water supply of at least a cumulative amount of 280,000 acre-feet for use in Nevada while long-term augmentation projects are being pursued. It is anticipated that this interim water supply will be made available in return for Nevada's funding of the Drop 2 Reservoir mandated for construction by the Bureau of Reclamation by P.L. 109-432 § 396. Annual recovery of this interim water supply by Nevada will not exceed 40,000 acre-feet.

In consideration of the Parties' diligent pursuit of long-term augmentation and the availability of the interim water supply, the Southern Nevada Water Authority (SNWA) agrees that it will withdraw right-of-way Application No. N-79203 filed with the Bureau of Land Management on October 1, 2004 for the purpose of developing Permit No. 58591 issued by the Nevada State Engineer in Ruling No. 4151.

The SNWA will not re-file such right-of-way application or otherwise seek to divert the water rights available under Permit No. 58591 from the Virgin River prior to 2014 so long as Nevada is allowed to utilize its pre-Boulder Canyon Project Act Virgin and Muddy River rights in accordance with the Parties' Recommendation, and the interim water supply made available to Nevada is reasonably certain to remain available. The SNWA will not re-file such right-of-way application or otherwise seek to divert the water rights available under Permit No. 58591 from the Virgin River after 2014 so long as diligent pursuit of system augmentation is proceeding to provide or has provided Nevada an annual supply of 75,000 acre-feet by the year 2020. Prior to re-filing any applications with the Bureau of Land Management, SNWA and Nevada will consult with the other Basin States.

This agreement is without prejudice to any Party's claims, rights or interests in the Virgin or Muddy River systems.

9. Consistency with Existing Law. The Parties' Recommendation has been developed with the intent to be consistent with existing law. The Parties expressly agree, for purposes of this Agreement, that the storage of water in and release of water from Lakes Powell and Mead pursuant to a ROD issued by the Secretary in substantial conformance with the Parties' Recommendation and this Agreement, and any agreements, rules and regulations adopted by the Secretary or the parties to implement such ROD, shall not constitute a violation of Article III(a)-(e) inclusive of the Colorado River Compact, or Sections 601 and 602(a) of the Colorado River Basin Project Act of 1968 (43 U.S.C. §§ 1551 and 1552(a)), and all applicable rules and regulations promulgated thereunder.

10. Resolution of Claims or Controversies Not Related to Reductions in Deliveries to Mexico under the Mexican Water Treaty of 1944. The Parties recognize that judicial or administrative proceedings are not preferred alternatives to the resolution of claims or controversies concerning the law of the river. In furtherance of this Agreement, the Parties desire to avoid judicial or administrative proceedings, and agree to pursue a consultative approach to the resolution of any claim or controversy. In the event that any Party becomes concerned that there may be a claim or controversy under this Agreement, the ROD, Article III(a)-(e) inclusive of the Colorado River Compact, or Sections 601 and 602(a) of the Colorado River Basin Project Act of 1968 (43 U.S.C. §§ 1551 and 1552(a)), and all applicable rules and regulations promulgated thereunder, such Party shall notify all other Parties in writing, and the Parties shall in good faith meet in order to resolve such claim or controversy by mutual agreement prior to initiating any judicial or administrative proceeding. No Party shall initiate any judicial or administrative proceeding against any other Party or against the Secretary under Article III (a)-(e) inclusive of the Colorado River Compact, or Sections 601 and 602(a) of the Colorado River Basin Project Act of 1968 (43 U.S.C. §§ 1551 and 1552(a)), or any other applicable provision of federal law, regulation, criteria, policy, rule or guideline, and no claim thereunder shall be ripe, until such consultation has been completed. All States shall comply with any request by the Secretary for consultation in order to resolve any claim or controversy. In addition, any State may invoke the provisions of Article VI of the Colorado River Compact. Notwithstanding anything in this Agreement to the contrary, the terms of this Paragraph shall survive for a period of five years following the termination or expiration of this Agreement, and shall apply to any withdrawing Party after withdrawal for such period.

11. Resolution of Claims and Controversies Related to Reductions in Deliveries to Mexico under the Mexican Water Treaty of 1944 and Limitations on Reductions to Lower Division States.

- A. The United States has the authority to reduce the quantity of water allotted to Mexico under Article 10(a) of the Mexican Water Treaty of 1944. The timing and quantity of such reductions will directly affect the quantity of water stored in Lakes Powell and Mead, and the timing and quantity of both present and future shortages in deliveries of water from Lake Mead in the United States imposed by the Secretary. A material consideration in the

development of the Parties' Recommendation is the assumption that the United States will reduce the quantity of water allotted to Mexico in years in which the Secretary imposes shortages in deliveries of water from Lake Mead in the United States. The Basin States' Preliminary Proposal of February 3, 2006, proposed that total shortages of 400,000, 500,000 and 600,000 acre-feet per year should be imposed within the United States and Mexico at certain Lake Mead elevations. In accordance with the Preliminary Proposal, Arizona and Nevada have executed a Shortage Sharing Agreement premised upon the imposition by the Secretary of shortages within the United States of 333,000, 417,000 and 500,000 acre-feet per year at the same Lake Mead elevations contained in the Preliminary Proposal. The DEIS substantially incorporates these assumptions into its consideration and analysis of the Basin States' alternative. For the first 600,000 acre-feet per year of any reductions in deliveries in any year due to a declared shortage, the Basin States have agreed that Arizona and Nevada will not take more than 500,000 acre-feet per year in aggregate and California will not take any reductions. The Parties recognize that there may be other circumstances in which the United States may reduce the amount of water allotted to Mexico under the 1944 Treaty.

- B. Each of the Parties to this Agreement takes the affirmative position that in years in which the Secretary imposes shortages in deliveries of water from Lake Mead in the United States, the United States must reduce the quantity of water allotted to Mexico under Article 10(a) of the Mexican Water Treaty of 1944. In the event that any Party becomes concerned that there may be a claim or controversy regarding the United States' delivery of water allotted to Mexico under Article 10(a) of the Mexican Water Treaty of 1944, such Party shall notify all other Parties in writing. Pursuant to such notification, the Parties shall in good faith meet to consult and formulate a uniform position regarding such claim or controversy. If the Parties are successful in formulating a uniform position regarding such claim or controversy, then the Parties shall cooperate in taking any and all actions appropriate to the resolution of such claim or controversy.
- C. Once consultation and any subsequent actions agreed by each Party to be taken following completion of such consultation are completed, any Party may initiate litigation or other appropriate challenge against the United States relative to any action or inaction of the United States pursuant to the Mexican Water Treaty of 1944 or the modification of the ROD. Any adverse position taken by any Party to any position taken by any other Party under this Paragraph 11. C. shall not constitute a breach of this Agreement, and all of the other terms and conditions contained in this Agreement shall remain in full force and effect.

12. Reservation of Rights. Notwithstanding the terms of this Agreement and the Parties' Recommendation, in the event that for any reason this Agreement is terminated,

or that the term of this Agreement is not extended, or upon the withdrawal of any Party from this Agreement, the Parties reserve, and shall not be deemed to have waived, any and all rights, including any claims or defenses, they may have as of the date hereof or as may accrue during the term hereof, under any existing federal or state law or administrative rule, regulation or guideline, including without limitation the Colorado River Compact, the Upper Colorado River Basin Compact, the Consolidated Decree in *Arizona v. California*, the Colorado River Basin Project Act of 1968, the Mexican Water Treaty of 1944, and any other applicable provision of federal law, rule, regulation, or guideline. Nothing in this Agreement shall be utilized against any other Party in any administrative, judicial or other proceeding, except for the sole purpose of enforcing the terms of this Agreement. Notwithstanding anything in this Agreement to the contrary, the terms of this Paragraph shall survive the termination or expiration of this Agreement, and shall apply to any withdrawing Party after withdrawal.

13. No Third-Party Beneficiaries. This Agreement is made for the benefit of the Parties. No Party to this Agreement intends for this Agreement to confer any benefit upon any person or entity not a signatory upon a theory of third-party beneficiary or otherwise.

14. Joint Defense Against Third Party Claims. In the event the Secretary adopts a ROD in substantial conformance with the Parties' Recommendation as set forth herein, the Parties will have certain common, closely parallel, or identical interests in supporting, preserving and defending the ROD and this Agreement. The nature of this interest and the relationship among the Parties present common legal and factual issues and a mutuality of interests. Because of these common interests, the Parties will mutually benefit from an exchange of information relating to the support, preservation and defense of the ROD and this Agreement, as well as from a coordinated investigation and preparation for discussion of such interests. In furtherance thereof, in the event of any challenge by a third party as to the ROD or this Agreement (including claims by any withdrawing Party), the Parties will cooperate to proceed with reasonable diligence and to use reasonable best efforts in the support, preservation and defense thereof, including any lawsuit or administrative proceeding challenging the legality, validity or enforceability of any term of the ROD or this Agreement, and will to the extent appropriate enter into such agreements, including joint defense or common interest agreements, as are necessary therefor. Each Party shall bear its own costs of participation and representation in any such defense.

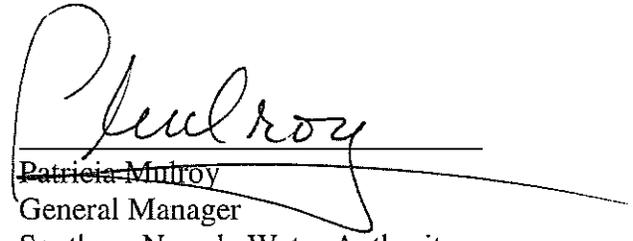
15. Reaffirmation of Existing Law. Nothing in this Agreement or the Parties' Recommendation is intended to, nor shall this Agreement be construed so as to, diminish or modify the right of any Party under existing law, including without limitation the Colorado River Compact, the Upper Colorado River Basin Compact, the Consolidated Decree in *Arizona v. California*, or the Mexican Water Treaty of 1944. The Parties hereby affirm the entitlement and right of each State under such existing law to use and develop the water of the Colorado River System.

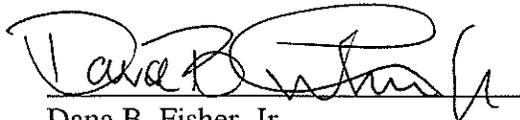
16. Term. This Agreement shall be effective as of the date of the first two signatories hereto, and shall be effective as to any additional Party as of the date of execution by such Party. Unless earlier terminated, this Agreement shall be effective for so long as the ROD and the ISG are in effect, and shall terminate on December 31, 2025 or upon the termination of the ROD and the ISG, whichever is earlier.

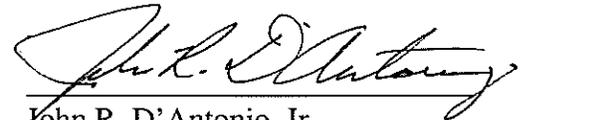
17. Authority. The persons and entities executing this Agreement on behalf of the Parties are recognized by the Parties as representing the respective States in matters concerning the operation of Lakes Powell and Mead, and as those persons and entities authorized to bind the respective Parties to the terms hereof. Each person executing this Agreement has the full power and authority to bind the respective Party to the terms of this Agreement. No Party shall challenge the authority of any person or Party to execute this Agreement and bind such Party to the terms hereof, and the Parties waive the right to challenge such authority.

[Signatures begin on following page.]


Herbert R. Guenther
Director
Arizona Department of Water Resources


~~Patricia Mulroy~~
General Manager
Southern Nevada Water Authority


Dana B. Fisher, Jr.
Chairman
Colorado River Board of California

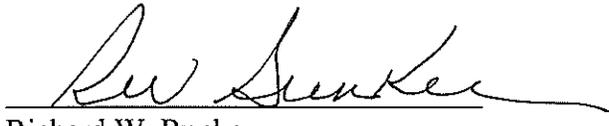

John R. D'Antonio, Jr.
Secretary
New Mexico Interstate Stream Commission


Scott Balcomb
Governor's Representative
State of Colorado


Dennis J. Strong
Director
Utah Division of Water Resources
Utah Interstate Stream Commissioner


Rod Kuharich
Director
Colorado Water Conservation Board


Patrick T. Tyrrell
State Engineer
State of Wyoming


Richard W. Bunker
Chairman
Colorado River Commission of Nevada

Proposed Interim Guidelines for Colorado River Operations

The Basin States propose the following Guidelines to be implemented and used for determinations made pursuant to the *Criteria for Coordinated Long-Range Operation of the Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (LROC)* during the period identified in Section 9¹:

Section 1. Definitions

- A. Each of the following terms shall have the meaning provided herein. All defined terms are identified by initial letter capitalization.
1. “Basin States” shall mean the Colorado River Basin States of Arizona, California, Colorado, New Mexico, Nevada, Utah, and Wyoming.
 2. “Certification Report” shall mean the written documentation provided by a Contractor pursuant to Section 5.D.5 that provides the Secretary with sufficient information to verify the quantity of ICS created and that the creation was consistent with the approved project.
 3. “Colorado River System” shall have the same meaning as defined in the 1922 Colorado River Compact.
 4. “Consolidated Decree” shall mean the Consolidated Decree entered by the United States Supreme Court in *Arizona v. California*, 126 S. Ct. 1543, 547 U.S. 150 (2006).
 5. “Contractor” shall mean a Boulder Canyon Project Act Section 5 Contractor or an entity receiving Mainstream water pursuant to other applicable federal statutes or the Consolidated Decree.
 6. “Delivery Agreement” shall mean an agreement consistent with these guidelines entered into between the Parties to the Forbearance Agreement, one or more Contractors creating ICS, and the Secretary of the Interior.
 7. “Developed Shortage Supply (“DSS”)” shall mean water available for use by a Contractor under the terms and conditions of a Delivery Agreement and Section 6.
 8. “Direct Delivery Domestic Use” shall mean direct delivery of water to domestic end users or other municipal and industrial water providers within the contractor’s area of normal service, including incidental regulation of Colorado River water supplies within the Year of operation but not including Off-stream Banking. For the Metropolitan Water District of Southern California (MWD), Direct Delivery Domestic Use shall include delivery of water to end users within its area of normal service, incidental regulation of Colorado River water

¹ Unless otherwise specified, references to “Section” or “Sections” in these Guidelines are in reference to sections of these Guidelines.

supplies within the Year of operation and Off-stream Banking only with water delivered through the Colorado River Aqueduct.

9. “Domestic Use” shall have the same meaning as defined in the 1922 Colorado River Compact.
10. “Forbearance Agreement” shall mean the Lower Colorado River Intentionally Created Surplus Forbearance Agreement, to be entered into among the Lower Division States, and certain Contractors in the Lower Division States.
11. “Intentionally Created Surplus (“ICS”)” shall mean intentionally created surplus available for use under the terms and conditions of the Forbearance Agreement and a Delivery Agreement.
 - a. ICS created through extraordinary conservation, as provided for in Section 5.D.1, shall be referred to as “Extraordinary Conservation ICS.”
 - b. ICS created through tributary conservation, as provided for in Section 5.D.2, shall be referred to as “Tributary Conservation ICS.”
 - c. ICS created through system efficiency projects, as provided for in Section 5.D.3, shall be referred to as “System Efficiency ICS.”
 - d. ICS created through the importation of non-Colorado River System Water, as provided for in Section 5.D.4, shall be referred to as “Imported ICS.”
12. “ICS Account” shall mean records established by the Secretary.
13. “ICS Declaration” shall mean a declaration by the Secretary that ICS is available for release.
14. “Interim Period” refers to the effective period as described in Section 9.
15. “Lower Division States” shall mean the Colorado River Basin States of Arizona, California, and Nevada.
16. “Mainstream” shall have the same meaning as defined in the Consolidated Decree.
17. “Off-stream Banking” shall mean the diversion of Colorado River water to underground storage facilities for use in subsequent Years from the facility used by a Contractor diverting such water.
18. “Parties” shall mean all of the signatories to the Forbearance Agreement.
19. “ROD” shall mean the Record of Decision issued by the Secretary for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

20. “Upper Division States” shall mean the Colorado River Basin States of Colorado, New Mexico, Utah, and Wyoming.
21. “Water Year” shall mean October 1 through September 30 of the following calendar year.
22. “Year” shall mean calendar year.

Section 2. Allocation of Unused Basic Apportionment Water under Article II(B)(6)

A. Introduction

Article II(B)(6) of the Consolidated Decree allows the Secretary to allocate water that is apportioned to one Lower Division State, but is for any reason unused in that State, to another Lower Division State. This determination is made for one Year only, and no rights to recurrent use of the water accrue to the state that receives the allocated water.

B. Application to Unused Basic Apportionment

Before making a determination of a surplus condition under these Guidelines, the Secretary will determine the quantity of apportioned but unused water from the basic apportionments under Article II(B)(6), and will allocate such water in the following order of priority:

1. Meet the Direct Delivery Domestic Use requirements of MWD and Southern Nevada Water Authority (SNWA), allocated as agreed by said agencies;
2. Meet the needs for Off-stream Banking activities in California by MWD and in Nevada by SNWA, allocated as agreed by said agencies; and
3. Meet the other needs for water in California in accordance with the California Seven-Party Agreement as supplemented by the Quantification Settlement Agreement.

Section 3. Coordinated Operation of Lakes Powell and Mead During the Interim Period

- A. During the Interim Period, the Secretary shall coordinate the operations of Lake Powell and Lake Mead according to the strategy set forth in this Section 3.
- B. The objective of the operation of Lakes Powell and Mead as described herein is to avoid curtailment of uses in the Upper Basin, minimize shortages in the Lower Basin and not adversely affect the yield for development available in the Upper Basin.
- C. The August 24-month study projections for the January 1 system storage and reservoir water surface elevations, for the following Water Year, would be used to determine the applicability of the coordinated operation of Lakes Powell and

Mead. Equalization or balancing of storage in Lakes Powell and Mead shall be achieved by the end of each Water Year.

Powell Elevation (feet)	Powell Operation	Powell Live Storage (maf)
3700	Equalize, avoid spills or 8.23 maf	24.32
3636 - 3666 (see table below)	8.23 maf; if Mead < 1075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	15.54 - 19.29 (2008 - 2026)
3575	7.48 maf 8.23 maf if Mead < 1025 feet	9.52
3525	Balance contents with a min/max release of 7.0 and 9.5 maf	5.93
3370		0

Lake Powell Equalization Elevation Table

In each of the following Water Years, the Lake Powell Equalization Elevation will be as follows:

Water Year	Elevation (feet)
2008	3636
2009	3639
2010	3642
2011	3643
2012	3645
2013	3646
2014	3648
2015	3649
2016	3651
2017	3652
2018	3654
2019	3655
2020	3657
2021	3659
2022	3660
2023	3662
2024	3663
2025	3664
2026	3666

1. Equalization: In Water Years when Lake Powell content is projected on January 1 to be at or above the elevation stated in the Lake Powell Equalization Elevation Table, an amount of water will be released from Lake Powell to Lake Mead at a rate greater than 8,230,000 acre-feet per Water Year to the extent necessary to avoid spills, or equalize storage in

the two reservoirs, or otherwise to release 8,230,000 acre-feet from Lake Powell.

2. Upper Elevation Balancing: In Water Years when Lake Powell content is projected on January 1 to be below the elevation stated in the Lake Powell Equalization Elevation Table and at or above 3575 feet, the Secretary shall release 8,230,000 acre-feet from Lake Powell if the projected elevation of Lake Mead is at or above 1075 feet. If the projected elevation of Lake Mead is below 1075 feet, the Secretary shall balance the contents of Lake Mead and Lake Powell, but shall release no more than 9,000,000 acre-feet and no less than 7,000,000 acre-feet from Lake Powell.
3. Mid-Elevation Releases: In Water Years when Lake Powell content is projected on January 1 to be below 3575 feet and at or above 3525 feet, the Secretary shall release 7,480,000 acre-feet from Lake Powell if the projected elevation of Lake Mead is at or above 1025 feet. If the projected elevation of Lake Mead is below 1025 feet, the Secretary shall release 8,230,000 acre-feet from Lake Powell.
4. Lower Elevation Balancing: In Water Years when Lake Powell content is projected on January 1 to be below 3525 feet, the Secretary shall balance the contents of Lake Mead and Lake Powell, but shall release no more than 9,500,000 acre-feet and no less than 7,000,000 acre-feet from Lake Powell.
5. When determining lake elevations and contents under this Section 3, no adjustment shall be made for ICS.

Coordinated Operation of Lakes Powell and Mead as described herein will be presumed to be consistent with the Section 602(a) storage requirement contained in the Colorado River Basin Project Act.

Section 4. Determination of Lake Mead Operation during the Interim Period

A. Normal Conditions

In Years when Lake Mead elevation is projected on January 1 to be at or above elevation 1075 feet and below 1145 feet, the Secretary shall determine a normal operating condition, unless there is an ICS Surplus under Section 4.B.5.

B. Surplus Conditions

1. Domestic Surplus (Lake Mead above Elevation 1145 feet and below 70R Strategy) in Effect through December 31, 2015 (through preparation of 2016 Annual Operating Plan for the Colorado River System Reservoirs (“AOP”))

In Years when Lake Mead content is projected to be above elevation 1145 feet, but less than the amount which would initiate a Surplus under Section B.3 70R Strategy or Section B.4 Flood Control Surplus on January 1, the

Secretary shall determine a Domestic Surplus. The amount of such Surplus shall equal:

- a. For Direct Delivery Domestic Use by MWD, 1.250 million acre-feet (maf) reduced by the amount of basic apportionment available to MWD.
- b. For use by SNWA, the Direct Delivery Domestic Use within the SNWA service area in excess of the State of Nevada's basic apportionment.
- c. For use in Arizona, the Direct Delivery Domestic Use in excess of Arizona's basic apportionment.

2. Domestic Surplus (Lake Mead above Elevation 1145 feet and below 70R Strategy) in Effect from January 1, 2016 through December 31, 2025 (through preparation of 2026 AOP)

In Years when Lake Mead content is projected to be above elevation 1145 feet, but less than the amount which would initiate a Surplus under Section B.3 70R Strategy or Section B.4 Flood Control Surplus on January 1, the Secretary shall determine a Domestic Surplus. The amount of such Surplus shall equal:

- a. For use by MWD, 250,000 acre-feet per Year in addition to the amount of California's basic apportionment available to MWD;
- b. For use by SNWA, 100,000 acre-feet per Year in addition to the amount of Nevada's basic apportionment available to SNWA;
- c. For use by Arizona, 100,000 acre-feet per Year in addition to the amount of Arizona's basic apportionment available to Arizona contractors.

3. Quantified Surplus (70R Strategy)

In Years when the Secretary determines that water should be released for beneficial consumptive use to reduce the risk of potential reservoir spills based on the 70R Strategy, the Secretary shall determine and allocate a Quantified Surplus sequentially as follows:

- a. Establish the volume of the Quantified Surplus. For the purpose of determining the existence, and establishing the volume, of Quantified Surplus, the Secretary shall not consider any volume of ICS as defined in these Guidelines.

- b. Allocate and distribute the Quantified Surplus 50% to California, 46% to Arizona and 4% to Nevada, subject to c. through e. that follow.
- c. Distribute California's share first to meet basic apportionment demands and MWD's demands, and then to California Priorities 6 and 7 and other surplus contracts. Distribute Nevada's share first to meet basic apportionment demands and SNWA demands. Distribute Arizona's share to surplus demands in Arizona including Off-stream Banking and interstate banking demands. Arizona, California and Nevada agree that Nevada would get first priority for interstate banking in Arizona.
- d. Distribute any unused share of the Quantified Surplus in accordance with Section 2, Allocation of Unused Basic Apportionment Water Under Article II(B)(6).
- e. Determine whether MWD, SNWA and Arizona have received the amount of water they would have received under Sections 4.B.1 or 4.B.2 if a Quantified Surplus had not been determined. If they have not, then determine and meet all demands provided for in Sections 4.B.1 or 4.B.2.

4. Flood Control Surplus

In Years in which the Secretary makes space-building or flood control releases pursuant to the February 8, 1984 Field Working Agreement between Reclamation and the Army Corps of Engineers, the Secretary shall determine a Flood Control Surplus for the remainder of that Year or the subsequent Year as specified in Section 12. In such Years, releases will be made to satisfy all beneficial uses within the United States, including unlimited Off-Stream Banking. Under current practice, surplus declarations under the Treaty for Mexico are declared when flood control releases are made. Modeling assumptions used in the FEIS are based on this practice. These Guidelines are not intended to identify, or change in any manner, conditions when Mexico may schedule up to an additional 0.2 maf.

5. ICS Surplus

- a. In Years in which Lake Mead's elevation is projected on January 1 to be above elevation 1075 feet and ICS has been requested for release, the Secretary shall determine an ICS Surplus.
- b. In Years in which a Quantified Surplus or a Domestic Surplus is available to a Contractor, the Secretary shall first deliver the Quantified Surplus or Domestic Surplus before delivering any requested ICS to that Contractor. If Quantified Surplus or Domestic Surplus is insufficient or unavailable to meet a Contractor's

demands, the Secretary may release ICS available in that Contractor's ICS Account at the request of the Contractor.

- c. The Secretary shall release ICS as described in Section 5.

C. Allocation of Colorado River Water and Forbearance Arrangements

Under these Guidelines, Colorado River water will continue to be allocated for use among the Lower Division States in a manner consistent with the provisions of the Consolidated Decree. It is expected that Lower Division States and individual Contractors for Colorado River water have or will adopt arrangements that will affect utilization of Colorado River water during the Interim Period. It is expected that water orders from Colorado River Contractors will be submitted to reflect forbearance arrangements by Lower Division States and individual Contractors. The Secretary will deliver Colorado River water to Contractors in a manner consistent with these arrangements. Surplus water will be delivered only to entities with contracts that are eligible to receive surplus water. ICS will be delivered pursuant to Section 5.D.6.

D. Shortage Conditions

1. Reductions in deliveries to the Lower Division States during declared shortages shall be implemented in the following manner:
 - a. Step One reduction: In Years when Lake Mead content is projected on January 1 to be at or below elevation 1075 feet and at or above 1050 feet, a quantity of 333,000 acre-feet shall not be released or delivered in the Lower Division States.
 - b. Step Two reduction: In Years when Lake Mead content is projected on January 1 to be below elevation 1050 feet and at or above 1025 feet, a quantity of 417,000 acre-feet shall not be released or delivered in the Lower Division States.
 - c. Step Three reduction: In Years when Lake Mead content is projected on January 1 to be below 1025 feet, a quantity of 500,000 acre-feet shall not be released or delivered in the Lower Division States.
2. In the event projections included in any Bureau of Reclamation monthly 24-Month Study indicate Lake Mead elevations may approach an elevation that would trigger shortages in deliveries of water from Lake Mead in the United States, the Secretary shall consult with the Basin States on how the United States shall reduce the quantity of water allotted to Mexico.
3. Whenever Lake Mead is below elevation 1025 feet, the Secretary shall consult with the Basin States annually to determine whether Colorado River hydrologic conditions, together with the anticipated delivery of water to the Lower Division States and Mexico, will cause the elevation of Lake

Mead to fall below 1000 feet. Upon such a determination, the Secretary shall consult with the Basin States to discuss further measures that may be undertaken. If increased reductions are required, the Secretary shall implement the reductions consistent with the law of the river.

4. Subject to the provisions of Section 4.D.3, the Lower Division States shall not take shortages in excess of those provided in Section 4.D.1. Arizona and Nevada have agreed to share all reductions, described in Section 4.D.1 based on the Arizona-Nevada Shortage Sharing Agreement dated February 9, 2007. California shall not be required to share in any reductions described in Section 4.D.1.
5. The Secretary shall consult with the Basin States to evaluate actions at critical elevations that may avoid shortage determinations as reservoir elevations approach critical thresholds.
6. During declared Shortages described in Section 4.D.1, the Secretary may release Developed Shortage Supply, subject to the provisions in Sections 5 and 6.

Section 5. System Efficiency, Extraordinary Conservation, Tributary Conservation and Importation of Non-Colorado River System Water for the Purpose of Developing Intentionally Created Surplus

A. Findings

ICS may be created through projects that create water system efficiency, extraordinary conservation, tributary conservation, and the importation of non-Colorado River System water into the Colorado River Mainstream. ICS is consistent with the concept that the States will take actions to augment storage of water in the Lower Colorado River Basin. The ICS shall be released to the Contractor that created it pursuant to both Article II(B)(2) of the Consolidated Decree and agreements among various Contractors to forbear from taking water that they otherwise would be able to request. Implementation under these Guidelines shall be predicated upon the execution of a Forbearance Agreement and a Delivery Agreement, as further provided for below.

B. Purposes

The purposes of ICS are to:

1. Encourage the efficient use and management of Colorado River water, and to increase the water supply in Colorado River system reservoirs, through the creation, release, and use of ICS;
2. Help avoid shortages to the Lower Basin;
3. Benefit both Lake Mead and Lake Powell;
4. Increase the surface elevations of both Lakes Powell and Mead to higher levels than would have otherwise occurred; and

5. Assure any Contractor that invests in conservation or augmentation to create ICS that no Contractor within another state will claim the ICS created by the Contractor.

C. Statement of Consistency with the Law of the River and Consequential Limitations on ICS Guidelines

In Years in which the Secretary determines that sufficient Mainstream water is available for release to satisfy annual consumptive use in the Lower Division States in excess of 7,500,000 acre-feet, Article II(B)(2) of the Consolidated Decree authorizes the Secretary to apportion surplus Mainstream water 50% for use in California, 46% for use in Arizona, and 4% for use in Nevada. The Boulder Canyon Project Act and Articles II(B)(2) and II(B)(6) of the Consolidated Decree, taken together, authorize the Secretary to apportion surplus water and to release one Lower Division State's unused apportionment for use in another Lower Division State. Pursuant to such authority and for the purpose of increasing the efficiency, flexibility, and certainty of Colorado River management and thereby helping satisfy the regional water demands that exist, the Secretary has the authority to promulgate guidelines to establish a procedural framework for facilitating the creation and release of ICS.

In the absence of forbearance, surplus water is apportioned for use according to the percentages provided in Article II(B)(2) of the Consolidated Decree. The Forbearance Agreement, as approved by the Parties, will provide the basis for such forbearance. The Parties will forbear only with respect to ICS created by projects described in exhibits attached to the Forbearance Agreement or added thereto by written consent of all Parties. It is hereby recognized that the creation, release and use of ICS pursuant to these Guidelines shall not be administered in such a way as to violate the Consolidated Decree, including Articles II(B)(2) and II(B)(6) therein. These Guidelines regarding ICS shall have no force or effect absent the existence and effectiveness of the Forbearance Agreement.

D. Creation and Release of ICS

1. Extraordinary Conservation ICS

A Contractor may create Extraordinary Conservation ICS through the following activities:

- a. Fallowing of land that currently is, historically was, and otherwise would have been irrigated in the next Year.
- b. Canal lining programs.
- c. Desalination programs in which the desalinated water is used in lieu of Mainstream water.
- d. Extraordinary conservation programs that existed on January 1, 2006.
- e. Extraordinary Conservation ICS demonstration programs pursuant to a letter agreement entered into between the United States Bureau of

Reclamation and the Contractor prior to the effective date of these Guidelines.

- f. Tributary Conservation ICS created under Section 5.D.2 and not released in the Year created.
- g. Imported ICS created under Section 5.D.4 and not released in the Year created.
- h. Other extraordinary conservation measures, including development and acquisition of a non-Colorado River System water supply used in lieu of Colorado River Mainstream water within the same state, in consultation with the Basin States, and as agreed upon by the Parties pursuant to the Forbearance Agreement.

2. Tributary Conservation ICS

A Contractor may create Tributary Conservation ICS by purchasing documented water rights on Colorado River System tributaries upstream of Hoover Dam within the Contractor's state if there is documentation that the water rights have been used for a significant period of Years and that the water rights were perfected prior to June 25, 1929 (the effective date of the Boulder Canyon Project Act). The quantity of Tributary Conservation ICS shall be limited to the quantity of water set forth in Exhibits incorporated in the Forbearance Agreement, and shall in no event be more than the quantity of such water the Secretary verifies actually flows into Lake Mead. Any Tributary Conservation ICS not released pursuant to Section 5.D.6 or deducted pursuant to Section 5.D.5.c in the Year it was created will, at the beginning of the following Year, be converted to Extraordinary Conservation ICS at the request of the Contractor and will thereafter be subject to all provisions applicable to Extraordinary Conservation ICS. Tributary Conservation ICS may be released for Domestic Use only.

3. System Efficiency ICS

A Contractor may make contributions of capital to the Secretary for use in Secretarial projects designed to realize system efficiencies that save water that would otherwise be lost from the Colorado River Mainstream in the United States. An amount of water equal to a portion of the water saved may be made available to contributing Contractor(s) by the Secretary as System Efficiency ICS. System efficiency projects are intended only to provide temporary water supplies. System Efficiency ICS will not be available for permanent use. System Efficiency ICS will be released to the contributing Contractor(s) on a predetermined schedule of annual deliveries for a period of Years as agreed by the Parties. The Secretary, in consultation with the Basin States, will identify potential system efficiency projects, terms for capital participation in such projects, and types and amounts of benefits the Secretary should provide in consideration of non-federal capital contributions to system efficiency projects, including identification of a portion of the water saved by such projects.

4. Imported ICS

A Contractor may create Imported ICS by introducing non-Colorado River System water in that Contractor's state into the Mainstream. Contractors proposing to create Imported ICS shall make arrangements with the Secretary, contractual or otherwise, to ensure no interference with the Secretary's management of Colorado River system reservoirs and regulatory structures. Any arrangement shall provide that the Contractor must obtain appropriate permits or other authorizations required by state law and that the actual amount of water introduced to the Mainstream shall be reported to the Secretary on an annual basis. Any Imported ICS not released pursuant to Section 5.D.6 or deducted pursuant to Section 5.D.5.c in the Year it was created will be converted, at the beginning of the following Year, to Extraordinary Conservation ICS at the request of the Contractor and thereafter will be subject to all provisions applicable to Extraordinary Conservation ICS.

5. Creation of ICS

A Contractor may create ICS subject to the following conditions:

- a. A Contractor shall submit a plan for the creation of ICS to the Secretary and the Basin States demonstrating how all requirements of these Guidelines will be met in the Contractor's creation of ICS. Until such plan is reviewed and approved by the Secretary in consultation with the other Basin States, such plan, or any ICS purportedly created through it, shall not be a basis for an ICS Declaration. A Contractor may modify its plan for creation of ICS during any Year, subject to approval by the Secretary in consultation with the Basin States. System Efficiency ICS with an approved multi-Year plan shall not require annual approval by the Secretary or consultation with the Basin States.
- b. A Contractor that creates ICS shall submit a Certification Report to the Secretary demonstrating the amount of ICS created and that its creation was consistent with the Forbearance Agreement, these Guidelines, and a Delivery Agreement executed by the Secretary. The Secretary shall verify the information in the Certification Report in consultation with the Basin States, and provide a final written decision to the Contractor, the Parties and the Basin States. The Contractor or any Party or Basin State may appeal the Secretary's verification of the Certification Report through administrative and judicial processes.
- c. There shall be a one-time deduction of five percent (5%) from the amount of ICS in the Year of its creation. This deduction results in additional water in storage in Lake Mead for future use in accordance with the Consolidated Decree and these Guidelines. This provision shall not apply to:

- (1) System Efficiency ICS created pursuant to Section 5.D.3 because a large portion of the water saved by this type of project will increase the quantity of water in storage.
 - (2) Extraordinary Conservation ICS created by conversion of Tributary Conservation ICS that was not released in the Year created, pursuant to Section 5.D.1.f because 5% of the ICS is deducted at the time the Tributary Conservation ICS is created.
 - (3) Extraordinary Conservation ICS created by conversion of Imported ICS that was not released in the Year created, pursuant to Section 5.D.1.g because 5% of the ICS is deducted at the time the Imported ICS is created.
- d. The records of any Contractor relating to the creation of ICS shall be open to inspection by the Secretary or any Contractor, Party or Basin State.
- e. In addition to the conditions described above, creation of Extraordinary Conservation ICS is subject to the following conditions:
- (1) Except as provided in Sections 5.D.2 and 5.D.4, Extraordinary Conservation ICS can only be created if such water would have otherwise been beneficially used.
 - (2) The maximum total amount of Extraordinary Conservation ICS that can be created during any Year is limited to the following:
 - (a) 400,000 acre-feet for California Contractors;
 - (b) 125,000 acre-feet for Nevada Contractors; and
 - (c) 100,000 acre-feet for Arizona Contractors.
 - (3) The maximum quantity of Extraordinary Conservation ICS that may be accumulated in all ICS Accounts, at any time, is limited to the following:
 - (a) 1,500,000 acre-feet for California Contractors;
 - (b) 300,000 acre-feet for Nevada Contractors; and
 - (c) 300,000 acre-feet for Arizona Contractors.
 - (4) Except as provided in Sections 5.D.2 and 5.D.4, no category of surplus water can be used to create Extraordinary Conservation ICS.
 - (5) The quantity of Extraordinary Conservation ICS remaining in an ICS Account at the end of each Year shall be diminished by annual evaporation losses of 3%. Losses shall be applied

annually to the end-of-the-Year balance of Extraordinary Conservation ICS beginning in the Year after the ICS is created and continuing until no Extraordinary Conservation ICS remains in Lake Mead. No evaporation losses shall be assessed during a Year in which the Secretary has declared a shortage.

- (6) Extraordinary Conservation ICS from a project within a state may be credited to the ICS Account of a Contractor within that state that has funded or implemented the project creating ICS, or to the ICS Account of a Contractor within the same state as the funding entity and project and with written agreement of the funding entity.
- (7) A Contractor must notify Reclamation by September 15 of the amount of Extraordinary Conservation ICS it wishes to create for the subsequent Year. If conditions during the Year change due to weather or other unforeseen circumstances, a Contractor may request a mid-Year modification of its water order to reduce the amount of ICS created during that Year. A Contractor cannot increase the amount of ICS it had previously scheduled to create during the Year.

6. Release of ICS

The release of ICS shall be pursuant to the terms of a Delivery Agreement entered into among the Secretary, the Parties to the Forbearance Agreement and any Contractor creating ICS. The Secretary shall not release ICS to a Contractor unless that Contractor is a party to a Delivery Agreement. A Contractor that has created ICS may request release of its ICS as is provided within such Delivery Agreement and subject to the following conditions:

- a. ICS shall be released pursuant to an ICS Declaration.
- b. If a Contractor has an overrun payback obligation, as described in the October 10, 2003 Inadvertent Overrun and Payback Policy or Exhibit C to the October 10, 2003 Colorado River Water Delivery Agreement, the Contractor must pay the overrun payback obligation in full before requesting or receiving a release of any ICS. The Contractor's ICS account shall be reduced by the amount of the overrun payback obligation in order to pay the overrun payback obligation.
- c. If more ICS is released to a Contractor than is actually available for release to the Contractor in that Year, then the excess ICS released shall be treated as an inadvertent overrun until it is fully repaid.
- d. A Contractor may reduce its request for release of ICS during the Year for any reason, including reduction in water demands. A Contractor may increase its request for release of ICS during the Year only if extraordinary weather conditions or water emergencies occur.

- e. In addition to the conditions described above, the release of Extraordinary Conservation ICS is subject to the following conditions:
 - (1) The total amount of Extraordinary Conservation ICS that may be released in any Year is limited to the following:
 - (a) 400,000 acre-feet for California Contractors;
 - (b) 300,000 acre-feet for Nevada Contractors; and
 - (c) 300,000 acre-feet for Arizona Contractors.
 - (2) If the May 24-month study for that Year indicates that a shortage condition would be declared in the succeeding Year if the requested amounts for the current Year under Section 5.D.6.e.(1) were released, the Secretary may release less than the amounts of ICS requested to be released.
 - (3) If the Secretary releases Flood Control Surplus water, Extraordinary Conservation ICS accumulated in ICS Accounts shall be reduced by the amount of the Flood Control Surplus on an acre-foot for acre-foot basis until no Extraordinary Conservation ICS remains. The reductions to the ICS Accounts shall be shared on a pro-rata basis among all Contractors that have accumulated Extraordinary Conservation ICS.

E. Accounting Procedure for ICS

In consultation with the Basin States, the Secretary shall develop a water accounting procedure to annually establish separate ICS Accounts to account for, at a minimum, the following:

- 1. For each Contractor that creates Extraordinary Conservation ICS:
 - a. The quantity of Extraordinary Conservation ICS created by the Contractor.
 - b. The releases of Extraordinary Conservation ICS to the Contractor.
 - c. The amount of Extraordinary Conservation ICS no longer available for release to the Contractor due to releases for flood control purposes.
 - d. The amount of Extraordinary Conservation ICS deducted pursuant to Section 5.D.5.c.
 - e. The amount of Extraordinary Conservation ICS no longer available for release to the Contractor due to annual evaporation losses pursuant to Section 5.D.5.e.(5).

- f. The amount of Extraordinary Conservation ICS remaining available for release to the Contractor.
 2. For each Contractor that creates Tributary Conservation ICS:
 - a. The quantity of Tributary Conservation ICS created by the Contractor.
 - b. The releases of Tributary Conservation ICS to the Contractor.
 - c. The amount of Tributary Conservation ICS deducted pursuant to Section 5.D.5.c.
 - d. The amount of Tributary Conservation ICS converted to Extraordinary Conservation ICS, if any.
 3. For each Contractor that creates System Efficiency ICS:
 - a. The quantity of System Efficiency ICS created by the Contractor.
 - b. The releases of System Efficiency ICS to the Contractor.
 - c. The amount of System Efficiency ICS no longer available for release to the Contractor for any reason.
 - d. The amount of System Efficiency ICS remaining available for release to the Contractor.
 4. For each Contractor that creates Imported ICS:
 - a. The quantity of Imported ICS created by the Contractor.
 - b. The releases of Imported ICS to the Contractor.
 - c. The amount of Imported ICS deducted pursuant to Section 5.D.5.c.
 - d. The amount of Imported ICS converted to Extraordinary Conservation ICS, if any.

F. Delivery Agreement

The Secretary shall release ICS to a Contractor only after entering into a Delivery Agreement with the Contractor and the Parties to the Forbearance Agreement. Any Delivery Agreement shall be consistent with these Guidelines and the Forbearance Agreement, and shall include the following:

1. A procedure for the annual schedule for the submission and approval of the plans for the creation of ICS, required by Section 5.D.5.a.
2. Procedures for demonstrating and verifying the creation of ICS, including a description of the contents of the Certification Report, required by Section 5.D.5.b.

3. A procedure for the release of ICS, in accordance with Section 5.D.6.
4. An accounting procedure, pursuant to Section 5.E.

Section 6. Creation and Release of Developed Shortage Supply

- A. During any Year in which the Secretary declares a shortage within the United States, Developed Shortage Supply may be created by:
 1. Purchasing documented water rights on Colorado River System tributaries upstream of Hoover Dam within the Contractor's state if there is documentation that the water rights have been used for a significant period of Years and that the water rights were perfected prior to June 25, 1929 (the effective date of the Boulder Canyon Project Act), provided that the quantity of such Developed Shortage Supply shall be limited to the quantity of water set forth in Exhibits incorporated in the Forbearance Agreement, and shall in no event be more than the quantity of such water the Secretary verifies actually flows into Lake Mead; and/or
 2. Introducing non-Colorado River System water in that Contractor's state into the Colorado River Mainstream, making sufficient arrangements with the Secretary, contractual or otherwise, to ensure no interference with the Secretary's management of Colorado River system reservoirs and regulatory structures. Any arrangement shall provide that the Contractor must obtain appropriate permits or other authorizations required by state law and reporting the actual amount of water introduced to the Colorado River Mainstream to the Secretary on an annual basis.
- B. Developed Shortage Supply may only be created by a project that is approved for creation of ICS prior to the declared Shortage.
- C. Except as provided in Sections 6.D through 6.F, Developed Shortage Supply is subject to all conditions set forth in Section 5 relating to creation and release of ICS.
- D. Any Developed Shortage Supply not released pursuant to Section 6.E in the Year it is created may not be converted to Extraordinary Conservation ICS.
- E. The Secretary shall release Developed Shortage Supply during a declared shortage. The following conditions shall apply to the release of Developed Shortage Supply:
 1. Developed Shortage Supply shall be released pursuant to a Shortage Declaration.
 2. Release of Developed Shortage Supply shall not cause the total deliveries within the Lower Division States to reach or exceed 7.5 million acre-feet in any Year. If the volume of Developed Shortage Supply requested to be released in any Year would cause the total deliveries within the Lower Division States to reach or exceed 7.5 million acre-feet for that Year, the Secretary shall consult with all Contractors requesting the release of Developed Shortage Supply and release so much thereof as will not cause

total deliveries in the Lower Division States to reach or exceed 7.5 million acre-feet in that Year.

F. The Secretary shall account for the creation and release of Developed Shortage Supply through the AOP and the Article V Consolidated Decree accounting processes.

G. Delivery Agreement

For a Contractor seeking to create and use Developed Shortage Supply, the Delivery Agreement for ICS executed by the Secretary, the Contractor and the Parties to the Forbearance Agreement shall also include the following:

1. A procedure for the annual schedule for the submission and approval of the plans for the creation of Developed Shortage Supply, required by Sections 6.C and 5.D.5.a.
2. Procedures for demonstrating and verifying the creation of Developed Shortage Supply, including a description of the contents of the Certification Report, required by Sections 6.C and 5.D.5.b.
3. A procedure for the release of Developed Shortage Supply, in accordance with Sections 6.C, 6.E, and 5.D.6.
4. An accounting procedure, pursuant to Section 6.F.

Section 7. Implementation of Guidelines

During the effective period of these Guidelines the Secretary shall utilize the currently established process for development of the AOP and use these Guidelines to make determinations regarding Normal, Surplus and Shortage conditions for the operation of Lake Mead, allocation of apportioned but unused water, the coordinated operations of Lakes Mead and Powell, and the administration of Developed Shortage Supply and contractor accounts for ICS.

The operation of the other Colorado River System reservoirs and determinations associated with development of the AOP shall be in accordance with the Colorado River Basin Project Act of 1968, these Guidelines, and other applicable federal law.

In order to allow for better overall water management during the Interim Period, the Secretary shall undertake a “mid-Year review” pursuant to Section 1(2) of the LROC, allowing for the revision of the current AOP, as appropriate, if actual runoff conditions are greater than projected or demands are lower than projected. The Secretary shall revise the determination for the current Year only to allow for additional deliveries. Any revision in the AOP, including reductions in the amount of ICS released, may occur only after a re-initiation of the AOP consultation process as required by law.

As part of the AOP process during the effective period of these Guidelines, California shall report to the Secretary on its progress in implementing its California Colorado River Water Use Plan.

The Secretary will base annual determinations of surplus, normal and shortage conditions on these Guidelines, unless extraordinary circumstances arise. Such circumstances could include operations necessary for safety of dams or other emergency situations, or other unanticipated or unforeseen activities arising from actual operating experience.

Section 8. Consultation

In addition to the circumstances described in Section 4.D.2, the Secretary shall consult with the Basin States in the following circumstances:

- A. The Secretary will first consult with all the Basin States before making any substantive modification to these Guidelines.
- B. Upon a request by a State for modification of these Guidelines, or upon a request by a State to resolve any claim or controversy arising under these Guidelines or under the operations of Lakes Powell and Mead pursuant to these guidelines or any other applicable provision of federal law, regulation, criteria, policy, rule, or guideline, or the Mexican Water Treaty of 1944, the Secretary shall invite the Governors of all the Basin States, or their designated representatives, to consult with the Secretary in an attempt to resolve such claim or controversy by mutual agreement.

Section 9. Effective Period & Termination

A. Effective Period

These guidelines will be in effect 30 days from the publication of the ROD in the Federal Register and will, unless subsequently modified, remain in effect through December 31, 2025 (through preparation of the 2026 AOP), except that during the effective period of the Forbearance Agreement defined in Section 5.C:

- 1. Any ICS remaining in an ICS Account on December 31, 2025, may be released as provided herein until December 31, 2035.
- 2. Tributary Conservation ICS described in Section 5.D.2 and Imported ICS described in Section 5.D.4 shall continue in full force and effect until fifty years from the date of the execution of the Forbearance Agreement.
- 3. Developed Shortage Supply described in Section 6 shall continue in full force and effect until fifty years from the date of the execution of the Forbearance Agreement.

B. Termination of Guidelines

Except as provided in Section 9.A, these Guidelines shall terminate on December 31, 2025 (through preparation of the 2026 AOP). At the conclusion of the effective period of these Guidelines, the operating criteria for Lake Powell and Lake Mead are assumed to revert to the operating criteria used to model baseline conditions in the Final Environmental Impact Statement for the Interim Surplus Guidelines

dated December 2000 (i.e., modeling assumptions are based upon a 70R strategy for the period commencing January 1, 2026 (for preparation of the 2027 AOP)).

C. Review of Guidelines

Beginning no later than December 31, 2020, the Secretary shall initiate a formal review for purposes of evaluating the effectiveness of these Guidelines. The Secretary shall consult with the Basin States in initiating this review.

Section 10. California's Colorado River Water Use Plan Implementation Progress

The California agricultural (Palo Verde Irrigation District (PVID), Yuma Project Reservation Division (YPRD), Imperial Irrigation District (IID), and Coachella Valley Water District (CVWD)) usage plus 14,500 acre-feet of Present Perfected Right (PPR) use would need to be at or below the following amounts at the end of the Year indicated in Years of Quantified Surplus (for Decree accounting purposes all reductions must be within 25,000 acre-feet of the amounts stated):

<u>Benchmark Date (Year)</u>	<u>Benchmark Quantity (California Agricultural Usage & 14,500 af of PPR Use in maf)</u>
2009	3.53
2012	3.47

In the event that California has not reduced its use in amounts to equal the above Benchmark Quantities, the surplus determinations under Sections 4.B.1 or 4.B.2 will be suspended and will instead be based upon the 70R Strategy, for up to the remainder of the term of these Guidelines. If however, California meets the missed Benchmark Quantity before the next Benchmark Date, or after 2012, the surplus determinations under Sections 4.B.1 or 4.B.2 shall be reinstated as the basis for the surplus determinations under the AOP for the next following Year(s).

Section 11. Authority

These Guidelines are issued pursuant to the authority vested in the Secretary by federal law, including the Boulder Canyon Project Act of 1928 (28 Stat. 1057) (the "BCPA"), and the Consolidated Decree and shall be used to implement Article III of the Criteria for the Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (Pub. L. No. 90-537), amended March 21, 2005.

Section 12. Modeling and Data

The August 24-Month Study projections for the January 1 system storage and reservoir water surface elevations, for the following Year, will be used to determine the applicability of these Guidelines.

In preparation of the AOP, Reclamation will utilize the 24-Month Study and/or other modeling methodologies appropriate for the determinations and findings necessary in the AOP.

Reclamation will utilize the best available data and information, including National Weather Service forecasting to make these determinations.

Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement

The State of Arizona, acting through the Arizona Department of Water Resources (“ADWR”); the Palo Verde Irrigation District (“PVID”); the Imperial Irrigation District (“IID”); The City of Needles; the Coachella Valley Water District (“CVWD”); The Metropolitan Water District of Southern California (“MWD”); the Southern Nevada Water Authority (“SNWA”); and the Colorado River Commission of Nevada enter into this Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement (“Forbearance Agreement”) as follows:

Recitals

- A. The purposes of this Forbearance Agreement are to:
1. Encourage the efficient use and management of Colorado River water, and to increase the water supply in Colorado River system reservoirs, through the creation, release, and use of Intentionally Created Surplus (“ICS”);
 2. Help avoid shortages to the Lower Basin;
 3. Benefit both Lake Mead and Lake Powell; and
 4. Increase the surface elevations of both Lakes Powell and Mead to higher levels than would have otherwise occurred.
 5. Assure any Contractor that invests in conservation or augmentation to create ICS under this Forbearance Agreement that no Contractor within another state will claim the ICS created by the Contractor.

B. The Parties to the Forbearance Agreement and their respective authority to forbear are as follows:

1. The Arizona Department of Water Resources, through its Director, is the successor to the signatory agency of the State for the 1922 Colorado River Compact, and the 1944 Contract for Delivery of Water with the United States, both authorized and ratified by the Arizona Legislature, A.R.S. §§ 45-1301 and 1311. Pursuant to A.R.S. § 45-107, the Director is authorized and directed, subject to the limitations in A.R.S. § 45-106, for and on behalf of the State of Arizona, to consult, advise and cooperate with the Secretary of the Interior of the United States (“Secretary”) with respect to the exercise by the Secretary of Congressionally authorized authority relative to the waters of the Colorado River (including, but not limited to, the Boulder Canyon Project Act of 1928, 43 U.S.C. § 617, and the Colorado River Basin Project Act of 1968, 43 U.S.C. § 1501) and with respect to the development, negotiation and execution of interstate agreements. Additionally, under A.R.S. § 45-105(A)(9), the Director is authorized to “prosecute and defend all rights, claims and privileges of this state respecting interstate streams.”
2. SNWA is a Nevada joint powers agency and political subdivision of the State of Nevada, created by agreement dated July 25, 1991, as amended November 17, 1994, and January 1, 1996, pursuant to N.R.S. §§ 277.074 and 277.120. SNWA is authorized by N.R.S. § 538.186 to enter into this Forbearance Agreement and, pursuant to its contract issued under Section 5 of the Boulder Canyon Project Act of 1928, SNWA has the right to divert ICS released by the Secretary for use within the State of Nevada pursuant to the Consolidated Decree.
3. The Colorado River Commission of the State of Nevada (CRCN) is an agency of the State of Nevada, authorized generally by N.R.S. §§ 538.041 and 538.251. CRCN is authorized by N.R.S. § 538.161 (6), (7) to enter into this

Agreement. The CRCN, in furtherance of the State of Nevada's responsibility to promote the health and welfare of its people in Colorado River matters, makes this Agreement to supplement the supply of water in the Colorado River which is available for use in Nevada, augment the waters of the Colorado River, and facilitate the more flexible operation of dams and facilities by the Secretary.

4. PVID is an irrigation district created under the Palo Verde Irrigation District Act, codified at Section 33-1 *et seq.* of the Appendix to the California Water Code, and delivers Colorado River water in Riverside and Imperial Counties, California, pursuant to its contract issued under Section 5 of the Boulder Canyon Project Act of 1928.
5. IID is an irrigation district created under the California Irrigation District Law, codified at Section 20500 *et seq.* of the California Water Code, and delivers Colorado River water in Imperial County, California, pursuant to its contract issued under Section 5 of the Boulder Canyon Project Act of 1928.
6. CVWD is a county water district created under the California County Water District Law, codified at Section 30000 *et seq.* of the California Water Code, and delivers Colorado River water to portions of its service area in Imperial, Riverside, and San Diego Counties, California, pursuant to its contract issued under Section 5 of the Boulder Canyon Project Act of 1928 and the California Quantification Settlement Agreement.
7. MWD is a metropolitan water district created under the California Metropolitan Water District Act, codified at Section 109-1 *et seq.* of the Appendix to the California Water Code; and delivers Colorado River water to portions of its service area in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura Counties, California, pursuant to its contracts issued under Section 5 of the Boulder Canyon Project Act of 1928.

8. The City of Needles is a charter city duly authorized and existing under and by virtue of the laws of the State of California and delivers Colorado River water, either directly or by exchange, to portions of Imperial, Riverside, and San Bernardino Counties, California, pursuant to its contracts issued under Section 5 of the Boulder Canyon Project Act of 1928,

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the Parties hereby agree as follows:

Article 1
Definitions and Term

1.1 Definitions.

The definitions in the Interim Surplus Guidelines (“ISG”) described in the Record of Decision dated January 16, 2001, and modified by the ROD are hereby incorporated in this Forbearance Agreement. In addition, each of the following terms shall have the meaning defined here. All defined terms shall be identified by initial letter capitalization.

- A. “Certification Report” shall mean the written documentation provided by a Contractor pursuant to Article 2.5(B) that provides the Secretary with sufficient information to verify the quantity of ICS created and that the creation was consistent with the approved project exhibit, this Forbearance Agreement, the Delivery Agreement, and the ROD.
- B. “Colorado River System” shall have the same meaning as defined in the 1922 Colorado River Compact.

- C. “Consolidated Decree” shall mean the Consolidated Decree entered by the United States Supreme Court in *Arizona v. California*, 126 S.Ct. 1543, 547 U.S. ____ (2006).
- D. “Contractor” shall mean a Boulder Canyon Project Act Section 5 Contractor or an entity receiving Mainstream water pursuant to other applicable federal statute or the Consolidated Decree.
- E. “Delivery Agreement” shall mean the agreement entered into by the Parties to this Agreement and the Secretary of the Interior contemporaneously with this Forbearance Agreement.
- F. “Forbearance Agreement” shall mean this Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement.
- G. “ICS” shall mean intentionally created surplus available for use under the terms and conditions of this Forbearance Agreement and the Delivery Agreement.
 - 1. ICS created through extraordinary conservation, as provided for in Article 2.1 herein, shall be referred to as “Extraordinary Conservation ICS.”
 - 2. ICS created through tributary conservation, as provided for in Article 2.2 herein, shall be referred to as “Tributary Conservation ICS.”
 - 3. ICS created through system efficiency projects, as provided for in Article 2.3 herein, shall be referred to as “System Efficiency ICS.”

- 4. ICS created through the importation of non-Colorado River System Water, as provided for in Article 2.4 herein, shall be referred to as “Imported ICS.”

- H. “ICS Account” shall mean a record established by the Secretary under the terms of this Forbearance Agreement, the Delivery Agreement, and the ROD.

- I. “ICS Declaration” shall mean a declaration of ICS made by the Secretary pursuant to the ROD, the Delivery Agreement and the provisions of this Forbearance Agreement.

- J. “Lower Division States” shall mean the Colorado River Basin States of Arizona, California, and Nevada.

- K. “Mainstream” shall have the same meaning as defined in the Consolidated Decree.

- L. “Parties” shall mean all of the signatories to this Forbearance Agreement.

- M. “ROD” shall mean the Record of Decision issued by the Secretary for the Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead, Particularly Under Low Reservoir Conditions, and including the policy for implementation of ICS.

- N. “Year” shall mean calendar year.

1.2 Term of the Forbearance Agreement.

This Forbearance Agreement shall commence on the date of execution by all Parties and shall terminate December 31, 2025; provided, however, that any ICS remaining in an ICS

Account on December 31, 2025, may be released as provided herein until December 31, 2035.

1.3 Extended Term for Tributary Conservation ICS and Imported ICS.

Notwithstanding Article 1.2, the provisions of this Forbearance Agreement for creation, and release in the Year of creation, of Tributary Conservation ICS under Article 2.2 and Imported ICS under Article 2.4, shall continue in full force and effect after termination of this Forbearance Agreement until the earlier of (1) the termination of the period provided in the ROD for the creation, release, and use of Tributary Conservation ICS and Imported ICS, or (2) fifty years from the date of execution of this Forbearance Agreement. The amount of Tributary Conservation ICS and Imported ICS that may be created, released, and used through the end of the extended term provided by this Article 1.3 shall not exceed the amount shown in, and shall be consistent with, the attached Exhibits ___ and ___ for Tributary Conservation ICS and Imported ICS. Such ICS may be released during the extended term as provided herein. The obligations of the Parties under Articles 2.5, 2.6, 3, 4, and 5 shall continue with regard to such ICS.

1.4 Seven Colorado River Basin States' Agreement

Notwithstanding Articles 1.2 and 1.3 above, if one or more states withdraw from the agreement dated ____, executed by the seven Colorado River Basin states, the Parties to this Forbearance Agreement shall consult to determine whether to continue this Forbearance Agreement in effect or to amend or terminate this Forbearance Agreement. In such event, the terms of this Forbearance Agreement shall continue in effect until the Parties have consulted and agreed to continue, amend, or terminate this Forbearance Agreement. In the event of termination, all Parties shall be relieved from the terms hereof and this Forbearance Agreement shall be of no further force or effect.

Article 2
Creation and Release of ICS

2.1 Extraordinary Conservation ICS

Pursuant to procedures set forth in the ROD, the Delivery Agreement, and this Forbearance Agreement, Extraordinary Conservation ICS may be created only through the following activities:

- A. Fallowing of land that currently is, historically was, and otherwise would have been irrigated in the next Year.
- B. Canal lining programs.
- C. Desalination programs in which the desalinated water is used in lieu of Mainstream water.
- D. Extraordinary conservation programs that existed on January 1, 2006.
- E. Demonstration Extraordinary Conservation ICS programs pursuant to a letter agreement entered into between the United States Bureau of Reclamation and the Contractor prior to the effective date of the ROD.
- F. Tributary Conservation ICS created under Article 2.2 hereto and not released in the Year created.
- G. Imported ICS created under Article 2.4 hereto and not released in the Year created.
- H. Other extraordinary conservation measures, including development and acquisition of a non-Colorado River System water supply used in lieu of Mainstream water within the same state, as agreed upon by the Parties pursuant to this Forbearance Agreement.

2.2 Tributary Conservation ICS

Pursuant to procedures set forth in the ROD, a Contractor may create Tributary Conservation ICS by purchasing documented water rights on Colorado River System tributaries within the

Contractor's state if there is documentation that the water rights have been used for a significant period of years and that the water rights were perfected prior to June 25, 1929 (the effective date of the Boulder Canyon Project Act of 1928). The quantity of Tributary Conservation ICS that may be created shall be limited to the quantity of water set forth in Exhibits ___ and ___, and shall in no event be more than the quantity of such water the Secretary verifies actually flows into Lake Mead. Any Tributary Conservation ICS not released or deducted pursuant to Article 2.5(C) in the Year it was created will be converted to Extraordinary Conservation ICS at the request of the Contractor and will be subject to all provisions of this Forbearance Agreement applicable to Extraordinary Conservation ICS.

2.3 System Efficiency ICS

Pursuant to procedures set forth in the ROD, a Contractor may make contributions of capital to the Secretary for use in Secretarial projects designed to realize efficiencies that save water that would otherwise be lost from the Mainstream in the United States. An amount of water equal to a portion of the water saved may be made available to contributing Contractors by the Secretary as System Efficiency ICS. System efficiency projects are only intended to provide temporary water supplies and System Efficiency ICS will not be available for permanent use. The System Efficiency ICS will be released to the capital contributor on a predetermined schedule of annual deliveries for a period of years as agreed by the Parties.

2.4 Imported ICS

Pursuant to procedures set forth in the ROD, a Contractor may create Imported ICS by introducing non-Colorado River System water in that Contractor's state into the Mainstream. Contractors proposing to create Imported ICS shall make sufficient arrangements with the Secretary, contractual or otherwise, to guarantee that the creation of Imported ICS shall cause no harm to the Secretary's management of the Colorado River System. These arrangements shall provide that the Contractor must obtain appropriate permits or other authorizations required by state law and that the actual amount of water introduced to the Mainstream would be reported to the Secretary on an annual basis. Any Imported ICS not released or

deducted pursuant to Article 2.5(C) in the Year it was created will be converted to Extraordinary Conservation ICS at the request of the Contractor and will be subject to all provisions of this Forbearance Agreement applicable to Extraordinary Conservation ICS.

2.5 Creation of ICS

A Contractor may create ICS subject to the following conditions:

- A. Pursuant to procedures set forth in the ROD, a Contractor shall submit a plan for the creation of ICS to the Secretary and the Lower Division States demonstrating how all requirements of this Forbearance Agreement will be met in the Contractor's creation of ICS. System Efficiency ICS with an approved multi-year plan shall not require annual approval by the Secretary or consultation with the Lower Division States. Until such plan is reviewed and approved by the Secretary annually in consultation with the Lower Division States, such ICS plan, or any ICS purportedly created through it, cannot be a basis for an ICS Declaration. A Contractor may modify its plan for creation of ICS during any Year, subject to approval by the Secretary in consultation with the Lower Division States.
- B. Pursuant to procedures set forth in the ROD, a Contractor that creates ICS shall submit a Certification Report to the Secretary demonstrating the amount of ICS created and that its creation was consistent with this Forbearance Agreement and the ROD. The Secretary shall verify the information in the Certification Report in consultation with the Lower Division States, and provide a final written decision to the Parties. Any Party may appeal the Secretary's verification of the Certification Report through administrative and judicial processes.
- C. There shall be a one-time deduction of five percent (5%) from the amount of ICS in the Year of its creation. This deduction results in additional water in storage in Lake Mead for future use in accordance with the Consolidated Decree, the Interim Surplus Guidelines, and the ROD. This provision shall not apply to:

1. System Efficiency ICS created pursuant to Article 2.3 of this Forbearance Agreement because a large portion of the water saved by this type of project will increase the quantity of water in storage.
 2. Extraordinary Conservation ICS created by conversion of Tributary Conservation ICS that was not released in the Year created, pursuant to Article 2.1(E) of this Forbearance Agreement, because 5% of the ICS is deducted at the time the Tributary Conservation ICS is created.
 3. Extraordinary Conservation ICS created by conversion of Imported ICS that was not released in the Year created, pursuant to Article 2.1(F) of this Forbearance Agreement, because 5% of the ICS is deducted at the time the Imported ICS is created.
- D. In addition to the conditions described above, creation of Extraordinary Conservation ICS is subject to the following conditions:
- 1 Except as provided in Articles 2.2 and 2.4, Extraordinary Conservation ICS can only be created if such water would have otherwise been beneficially used.
 2. The maximum total amount of Extraordinary Conservation ICS that can be created during any Year is limited to the following:
 - a. 400,000 acre-feet for California Contractors;
 - b. 125,000 acre-feet for Nevada Contractors; and
 - c. 100,000 acre-feet for Arizona Contractors.
 3. The maximum quantity of Extraordinary Conservation ICS that may be accumulated in all ICS Accounts, at any time, is limited to the following:
 - a. 1,500,000 acre-feet for California Contractors;
 - b. 300,000 acre-feet for Nevada Contractors; and
 - c. 300,000 acre-feet for Arizona Contractors.
 4. Except as provided in Articles 2.2 and 2.4, no category of surplus water can be used to create Extraordinary Conservation ICS.
 5. The quantity of Extraordinary Conservation ICS remaining in an ICS Account at the end of each Year shall be diminished by annual

evaporation losses, as determined by the Secretary in consultation with the Lower Division States, provided that such losses shall not exceed three percent (3%). Losses shall be applied annually to the end-of-the-Year balance of Extraordinary Conservation ICS beginning in the Year after the ICS is created and continuing until no Extraordinary Conservation ICS remains in Lake Mead. No evaporation losses shall be assessed during a Year in which the Secretary has declared a shortage.

6. Extraordinary Conservation ICS from a project within a state may only be credited to the ICS Account of a Contractor within that state that has funded or implemented the project creating the ICS, or to the ICS Account of a Contractor within the same state as the funding entity and project and with written agreement of the funding entity.

2.6 Request for Release of ICS

A Contractor that has created ICS may request that the Secretary release its ICS subject to the following conditions:

- A. If a Contractor has an overrun payback obligation, as described in the October 10, 2003 Inadvertent Overrun and Payback Policy or Exhibit C to the October 10, 2003 Colorado River Water Delivery Agreement, the Contractor must pay the overrun payback obligation in full before requesting or receiving a release of any ICS. The Contractor may request that the amount of ICS in the Contractor's ICS Account be reduced by the amount of the overrun payback obligation in order to pay the overrun payback obligation.
- B. ICS shall only be released pursuant to an ICS Declaration.
- C. In addition to the conditions described above, a Contractor's request for release of Extraordinary Conservation ICS is subject to the following conditions:

1. The total amount of Extraordinary Conservation ICS that may be released in any Year is limited to the following:
 - a. 400,000 acre-feet for California Contractors;
 - b. 300,000 acre-feet for Nevada Contractors; and
 - c. 300,000 acre-feet for Arizona Contractors;
2. If the May, 24-month study for that Year indicates that a shortage condition would be declared in the succeeding Year if the requested amounts for the current Year under Article 2.6 were released, the Secretary may release less than the amounts of ICS requested to be released.
3. If the Secretary releases Flood Control Surplus water, Extraordinary Conservation ICS accumulated in ICS Accounts shall be reduced by the amount of the Flood Control Surplus on an acre-foot for acre-foot basis until no Extraordinary Conservation ICS remains. The reductions to the ICS Accounts shall be shared on a pro-rata basis among all Contractors that have accumulated Extraordinary Conservation ICS unless otherwise agreed to by the Contractors.

2.7 Additional Terms Regarding Creation and Release of ICS

It is the specific intent of the Parties that the terms, conditions and procedures regarding the creation and release of ICS contained in this Article 2 will be applied in conformance with additional terms, conditions and procedures governing the creation and release of ICS contained in the Delivery Agreement.

Article 3 Forbearance

- 3.1 In the absence of forbearance, surplus water is apportioned for use according to the percentages provided in Article II(B)(2) of the Consolidated Decree. The Parties respectively agree as follows:

- A. ADWR hereby forbears:
 - 1. Any right the State of Arizona may have to delivery of any ICS released in accordance with the terms and conditions set forth in this Forbearance Agreement and the Delivery Agreement for use within the State of California or the State of Nevada.
 - 2. Any right the State of Arizona may have to the release and delivery of water for direct delivery domestic use to entities in California or Nevada under a Domestic Surplus as described in the Delivery Agreement and the ROD.
 - B. PVID, IID, CVWD, the City of Needles and MWD hereby forbear:
 - 1. Any right they may have to delivery of any ICS released in accordance with the terms and conditions set forth in this Forbearance Agreement and the Delivery Agreement for use within the State of Arizona or the State of Nevada.
 - 2. Any right they may have to the release and delivery of water for direct delivery domestic use to entities in Arizona or Nevada under a Domestic Surplus as described in the Delivery Agreement and the ROD.
 - C. SNWA and CRCN hereby forbear:
 - 1. Any right SNWA or the State of Nevada may have to delivery of any ICS released in accordance with the terms and conditions set forth in this Forbearance Agreement and the Delivery Agreement for use within the State of Arizona or the State of California.
 - 2. Any right SNWA or the State of Nevada may have to the release and delivery of water for direct delivery domestic use to entities in Arizona or California under a Domestic Surplus as described in the Delivery Agreement and the ROD.
- 3.2 Notwithstanding the foregoing forbearance of ICS, the Parties only forbear with respect to ICS that is created pursuant to exhibits attached to and incorporated within this Forbearance Agreement. This Forbearance Agreement incorporates Exhibits A through ___ as of the date of execution. Additional exhibits may be

added to this Forbearance Agreement after written approval of all of the Parties. Such approval shall not be unreasonably withheld.

3.3 The Parties do not forbear any right to the release or delivery of any water that is not described in Article 3.1.

3.4 Forbearance of all Parties is conditioned on the following:

- A. The execution, by all of the Parties and the Secretary, of a Delivery Agreement that will be a companion to this Forbearance Agreement.
- B. The adoption by the Secretary of a ROD implementing an ICS program in substantial conformance with the provisions of this Forbearance Agreement and its companion Delivery Agreement.
- C. The continued implementation of an ICS program that is in substantial conformance with this Forbearance Agreement and its companion Delivery Agreement, including:
 - 1. The availability of the verification and appeal process described in Article 2.5(B);
 - 2. The establishment and use of an ICS accounting procedure by the Secretary consistent with this Forbearance Agreement and the Delivery Agreement;
 - 3. The Secretary's annual declaration of Normal, Surplus (other than Quantified Surplus), or Shortage conditions based on conditions in Lake Mead with consideration of the amount of ICS accumulated by the Parties. The determination of the amount of Quantified Surplus shall not include the volume of accumulated Extraordinary Conservation ICS; and
 - 4. The termination of Partial Domestic Surplus as defined in the Record of Decision dated January 16, 2001, upon issuance of the ROD.

Article 4

General Provisions

- 4.1 The records of any Party to this Forbearance Agreement that relate to the creation of ICS shall be open to inspection by any other Party.
- 4.2 The Parties to this Forbearance Agreement are hereby notified of A.R.S. § 38-511.
- 4.3 The Parties agree to comply with all applicable federal or state laws relating to equal opportunity and non-discrimination.
- 4.4 Except as provided in Article 3, including additional exhibits agreed upon by the Parties pursuant to Article 3.2, nothing in this Forbearance Agreement shall be deemed to diminish or waive the rights of any Party. The failure of any Party to enforce a provision of this Forbearance Agreement shall not be deemed to constitute a waiver of that provision. The execution of, and forbearance in compliance with, this Forbearance Agreement shall not be admissible against any Party in any action except for an action to enforce the terms of this Forbearance Agreement or the companion Delivery Agreement.
- 4.5 No Party to this Forbearance Agreement shall be considered to be in default in the performance of any obligations under this Forbearance Agreement when a failure of performance shall be due to uncontrollable forces. The term “uncontrollable force” shall mean any cause beyond the control of the party unable to perform such obligation, including but not limited to failure or threat of failure of facilities, flood, earthquake, storm, fire, lightning, and other natural catastrophes, epidemic, war, civil disturbance or disobedience, strike, labor dispute, labor or material shortage, sabotage, restraint by order of a court or regulatory agency of competent jurisdiction, and action or non-action by, or failure to obtain the necessary authorizations or approvals from, a federal governmental agency or authority, which by exercise of due diligence and foresight such party could not reasonably have been expected to overcome. Nothing contained herein shall be

construed to require any party to settle any strike or labor dispute in which it is involved.

Article 5
Notices

5.1 Notices and Requests

A. All notices and requests required or allowed under the terms of this Forbearance Agreement shall be in writing and shall be mailed first class postage paid to the following entities at the following addresses:

CRCN:

Colorado River Commission of Nevada

555 E. Washington Ave., Suite 3100

Las Vegas, NV 89101

Attn: Executive Director, Colorado River Commission

SNWA:

Southern Nevada Water Authority

1001 S. Valley View Boulevard

Las Vegas, NV 89153

Attn: General Manager

PVID:

Palo Verde Irrigation District

180 West 14th Avenue

Blythe, CA 92225

Attn: General Manager

IID:

Imperial Irrigation District
333 E. Barioni Boulevard
Imperial, CA 92251
Attn: General Manager

CVWD:
Coachella Valley Water District
P. O. Box 1058
Coachella, CA 92236
Attn: General Manager/Chief Engineer

City of Needles:
City of Needles
817 Third Street
Needles, CA 92363-2933
Attention: City Manager

MWD:
The Metropolitan Water District of Southern California
700 North Alameda Street
Los Angeles, CA 90012
Attn: General Manager

State of California:
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203-1068
Attn: Executive Director

State of Arizona:
Arizona Department of Water Resources

3550 North Central Avenue
Phoenix, AZ 85012
Attn: Director

B. Any Party may, at any time, change its mailing address by notice to the other Parties.

5.2 Notices and Requests by Facsimile

A. Notices and requests may be given by facsimile among the Parties in lieu of first class mail as provided in Article 5.1. Such facsimiles shall be deemed complete upon a receipt from the sender's facsimile machine indicating that the transmission was satisfactorily completed and after phone communication with administrative offices of the recipient notifying the recipient that a facsimile has been sent.

B. The facsimile numbers of the entities listed in Article 5.1(A) are as follows:

State of Arizona:	(602) 771-8681 (Attn: Director)
SNWA	
CRCN	(702) 486-2670 (Attn: Executive Director, Colorado River Commission)
PVID	(760) 922-8294 (Attn: General Manager)
IID	(760) 339-9392 (Attn: General Manager)
CVWD	(760) 398-3711 (Attn: General Manager/Chief Engineer)
City of Needles	
MWD	(213) 217-5704 (Attn: General Manager)
CRB	(818) 543-4685 (Attn: Executive Director)

C. Any Party may, at any time, change its facsimile number by notice to the other Parties.

In Witness of this Forbearance Agreement, the Parties affix their official signatures below, acknowledging execution of this document on the _____ day of _____, 2007.

Attest:

THE STATE OF ARIZONA acting through
the ARIZONA DEPARTMENT OF
WATER RESOURCES

By: _____
Title

By: _____
Director

Approved as to form:

By: _____
Title

Attest:

PALO VERDE IRRIGATION DISTRICT

By: _____
General Manager

By: _____
Chair

Approved as to form:

By: _____
Title

Attest:

IMPERIAL IRRIGATION DISTRICT

By: _____
General Manager

By: _____
Chair

Approved as to form:

By: _____
Title

Attest:

THE CITY OF NEEDLES

By: _____
Title

By: _____
City Manager

Approved as to form:

By: _____
Title

Attest:

COACHELLA VALLEY WATER DISTRICT

By: _____
General Manager

By: _____
Chair

Approved as to form:

By: _____

Attest:

THE METROPOLITAN WATER
DISTRICT OF SOUTHERN CALIFORNIA

By: _____
Title

By: _____
General Manager

Approved as to form:

By: _____
Title

Attest:

SOUTHERN NEVADA WATER
AUTHORITY

By: _____
Executive Director

By: _____
Chair

Approved as to form:

By: _____
Title

Attest:

THE COLORADO RIVER COMMISSION
OF NEVADA

By: _____
Title

By: _____
Chair

Approved as to form:

By: _____
Title

Arizona-Nevada Shortage-Sharing Agreement

This Agreement is entered into among the Arizona Department of Water Resources (“Arizona”), the Arizona Water Banking Authority (“AWBA”), the Colorado River Commission of Nevada (“CRC”) and the Southern Nevada Water Authority (“SNWA”). For convenience, Arizona, AWBA, CRC and SNWA are at times herein referred to individually as “Party” and collectively as “Parties” and CRC and SNWA are referred to as “Nevada”.

Preamble

The 1944 Mexican Water Treaty, the 1964 U.S. Supreme Court Decree in *Arizona v. California*, and the 1968 Colorado River Basin Project Act authorize and guide the Secretary of the Interior (“Secretary”) in the determination of water deliveries to the Republic of Mexico and from the mainstream of the Colorado River within the Lower Basin during shortage conditions. However, there remain significant differences of opinion between Arizona and Nevada regarding how much water would be delivered to each state within the Lower Colorado River Basin during a shortage declared by the Secretary. Arizona and Nevada have now, therefore, agreed on how Secretarial shortage declarations of up to 500,000 acre-feet within the United States would be shared between them during an Interim Period. This Agreement is conditioned upon the inclusion of all material terms from the *Seven Basin States’ Preliminary Proposal Regarding Colorado River Interim Operations* (Seven States’ Proposal) that was forwarded to the Secretary on February 3, 2006, as it may be modified, within the Record of Decision for *Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions* (“Record of Decision”). If shortage declarations within the United States exceed 500,000 acre-feet, the Secretary would consult with representatives from the seven Colorado River Basin states before allocating additional shortage reductions. That consultation would be initiated anytime that the water surface elevation of Lake Mead is at or below water surface elevation 1025 feet.

AGREEMENT

Now, therefore, based upon the mutual covenants and promises contained herein, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto do agree as follows:

1. Definitions:

a. Interim Period. The period beginning on the date the Secretary issues a Record of Decision and ending on December 31, 2025 (through preparation of the 2026 Annual Operating Plan).

b. Shortage. Any shortage within the United States declared by the Secretary pursuant to Article II(B)(3) of the Decree during the Interim Period.

2. Reduction in Mexican Deliveries. The Parties have entered into this Agreement based on the presumption that the United States will reduce deliveries to Mexico as described in the Seven States' Proposal. In the event that the United States does not reduce deliveries to Mexico in accordance with paragraph (3)(F)(5) of the Seven States' Proposal, the Parties have agreed only to the shortage allocations described in Section 3 of this Agreement.

3. Shortage Sharing Between Arizona and Nevada. During the Interim Period the Parties agree that shortages shall be allocated between Arizona and Nevada in the following quantities:

A. In years when Lake Mead content is projected on January 1 to be at or below elevation 1075 ft. and at or above 1050 ft., then Nevada's share of the shortage within the United States shall equal 13,000 acre-feet and Arizona's share of the shortage within the United States shall equal 320,000 acre-feet.

B. In years when Lake Mead content is projected on January 1 to be below elevation 1050 ft. and at or above 1025 ft., then Nevada's share of the shortage within the United States shall equal 17,000 acre-feet and Arizona's share of the shortage within the United States shall equal 400,000 acre-feet.

C. In years when Lake Mead content is projected on January 1 to be below 1025 ft., then Nevada's share of the shortage within the United States shall equal 20,000 acre-feet and Arizona's share of the shortage within the United States shall equal 480,000 acre-feet.

4. Agreement Limited to Maximum Shortage Volume of 500,000 Acre-feet Within the United States. This Agreement and the Parties relative obligations hereunder are specifically limited to a maximum shortage volume of 500,000 acre-feet within the United States in any year during the Interim Period. Should Lower Basin total shortage volume exceed 500,000 acre-feet within the United States, then the Parties will consult with the Secretary concerning shortage sharing beyond 500,000 acre-feet within the United States.

5. Shortage Assistance. For the purpose of assisting Arizona in offsetting impacts from shortages that may occur during the Interim Period, SNWA agrees to provide to the Arizona Water Banking Authority the sum of \$8,000,000.00 (Eight Million Dollars) ("the Funds"). The Arizona Water Banking Authority will use the Funds to purchase and/or store water supplies. This sum shall be paid to Arizona within 60 days of the date the Secretary issues a Record of Decision, unless otherwise agreed in writing by the SNWA and Arizona. Neither the payment nor the use of the Funds are conditioned on the occurrence of a shortage during the Interim Period, and the Funds shall be nonrefundable.

6. Condition Precedent to Effectiveness of Agreement. The Parties agree, as an express condition precedent to the effectiveness and enforceability of this Agreement,

that the Secretary must issue a Record of Decision that is consistent with all material terms included in the Seven States' Proposal, including this Agreement, by July 1, 2008, unless otherwise agreed to in writing by the Parties. If such condition precedent does not occur by the date set forth herein or as extended or modified by written agreement of the Parties, this Agreement shall be of no force or effect among the Parties.

7. Nevada's Use of Tributary Conservation Water and Nevada State Groundwater During Declared Shortage Condition. The Parties anticipate that following the issuance of the Record of Decision, Nevada will be able to create Intentionally Created Surplus ("ICS") by introducing into the Colorado River mainstream Nevada State Groundwater ("Imported ICS") and Virgin and Muddy River water pursuant to Nevada water rights that pre-date the Boulder Canyon Project Act ("Tributary Conservation ICS"). Pursuant to a mutually agreed upon forbearance agreement, the Secretary will deliver such ICS for municipal and industrial uses within Nevada. The Parties have agreed that the water that would be used to create Tributary Conservation ICS and Imported ICS during non-shortage years will be available during declared shortages. It is anticipated by the Parties that the Record of Decision will establish guidelines whereby the Secretary of Interior, through the Bureau of Reclamation, may enter into agreements to verify and deliver ICS to the party that created it.

Arizona agrees that if in any year, pursuant to Article II (B)(3) of the Decree, there is insufficient mainstream water available to satisfy the consumptive use of 7.5 maf in the lower division states, then Arizona will not object to the delivery by the Secretary to Nevada of water that would otherwise qualify for creation and release of Tributary Conservation ICS or Imported ICS during a non-shortage year nor otherwise claim a right to use such water in any form or fashion. Arizona's agreement not to object to any secretarial delivery of and Nevada's diversion of such water shall be binding on Arizona only to the extent that such delivery does not cause the total deliveries within the lower division states to exceed 7.5 maf in any year in which the Secretary has declared a shortage. Furthermore, Arizona's agreement is conditioned on application of the same provisions for verification that would apply to the creation of Tributary Conservation ICS or Imported ICS under the Seven States' Proposal.

8. Reservation of Rights. Notwithstanding the terms of this Agreement, in the event that for any reason this Agreement is terminated, or that the term of this Agreement is not extended, or upon the withdrawal of any Party from this Agreement, the Parties reserve, and shall not be deemed to have waived, any and all rights, including any claims or defenses, they may have as of the date hereof or as may accrue during the term hereof, including specifically the respective legal positions of Nevada and Arizona regarding how the delivery of water under a shortage declaration by the Secretary would be administered within the Lower Colorado River Basin and any other rights, claims or defenses under any existing federal or state law or administrative rule, regulation or guideline, including without limitation the Colorado River Compact, the Decree in *Arizona v. California* (the "Decree"), the Colorado River Basin Project Act of 1968, and any other applicable provision of federal law, rule, regulation, or guideline.

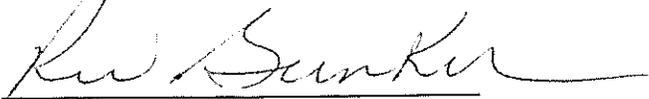
In Witness of this Agreement, the Parties affix their official signatures below, this
9th day of February, 2007.



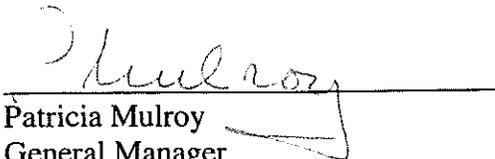
Herbert R. Guenther
Director
Arizona Department of Water Resources



Herbert R. Guenther
Chairman
Arizona Water Banking Authority



Richard Bunker
Chairman
Colorado River Commission of Nevada



Patricia Mulroy
General Manager
Southern Nevada Water Authority

Recommended Alternative

1. The primary purpose of the Colorado River Storage Project is to deliver water to the holders of water rights. The Water Supply alternative is the only alternative that focuses on this purpose. To protect the SNWA the alternative should be amended to protect the 1,000 feet MSL level consistent with the proposed SNWA Lake Mead Intake No. 3 Project noted on page 5-8. With this change the Water Supply Alternative best meets the primary purpose of the system.

Thank you for the opportunity to participate in this process,

A handwritten signature in black ink, appearing to read "Mark W. Balle". The signature is written in a cursive style with a large initial "M".

From: Bird, Mark [mark.bird@ccsn.edu]

Sent: Thursday, April 26, 2007 1:51 PM

To: strategies@lc.usbr.gov

Cc: Bird, Mark

Subject: river DEIS

Hi:

I am responding the DEIS for the Colorado River. I believe options to be considered should include:

1. The Secretary of the Interior reducing water to all river states by 5 percent.
2. Converting farm water to city water.
3. Increasing by a factor of three the amount of money for desalting research and development.
4. U.S. efforts at reducing global warming gases at a national and international level.

These options are further discussed in the following newspaper article relating to the Colorado River.

Please include a copy of this article as a part of my reply. Also, can you tell me whether or not you can include the following article?

Thanks,

Mark Bird

Is California headed toward economic collapse?

By Mark Bird
March 9, 2007

California has been using over 100 percent of its allocation of the Colorado River and over 100 percent of its annual renewable groundwater. Nearly 100 percent of the water used in metro San Diego and metro Los Angeles flows from hundreds of miles away.

There is a virtual 100 percent probability global warming is occurring and will intensify. Solutions will be thwarted by a near 100 percent certainty of litigation.

The Colorado River is the most critical water source for Southern California, Arizona and Nevada. In the next 30 years, the population of these two latter states will increase by 100 percent. Wyoming, Colorado, Utah and New Mexico will all also be using more Colorado River water in the next decade.

Lake Mead, on the Colorado River, is the largest reservoir in North America. Relative to its designed storage capacity, Lake Mead is now 15 percent silt, 37 percent water and 48 percent empty. A California economic collapse would commence if Lake Mead loses as little as another 20 percent of its storage capacity.

Additional hydrological factors include the absence of any large lake or river that is entirely within Southern California, the urban heat island effect, the tree-ring record suggesting the 20th century was a wet century, aging water infrastructure and an absence of regulations addressing shortage conditions on the Colorado River.

Additional sociological factors include water speculators buying water rights, bureaucratic inertia, an anti-science disposition relative to present trends, unfriendly relations with other states, and the complexity of approximately a thousand water districts and water-regulating entities in California. These factors are certain to intensify water scarcity in the near future.

But global warming is probably the most significant factor. In about 150 years of measurement, the 10 warmest years have all occurred after 1989. Statistically, one would not expect this pattern in over a million samples of picking 10 random years from a box.

For metro Los Angeles, 86 percent of its water derives from aqueducts supplying water from the Colorado River or the Sierra Nevada mountains in Northern California. Global warming is likely to continue to mean less snow being created, upstream soil absorbing more water, more evaporation from all reservoirs, less water entering the over 2,000 miles of concrete canals in California and more evaporation from these canals. At the same time, due to the warming, all farms will need more water to grow the same quantity of food.

It would be difficult to quantify, but perhaps the 43 non-Colorado River states and about 200 nations in the world are now annually "using," in terms of global warming evaporation, an amount of California water equal to the annual water usage of San Diego.

Over a few years, the contours of a collapse may feature a 50 percent increase in water bills, a 50 percent increase in power bills from electricity from Colorado River dams, and a 50 percent increase in the cost of food grown in Southern California. Such a scenario would send ripples of unemployment, crime and civil

unrest throughout the Golden State.

Given these trends, what are four key solutions?

Perhaps the most immediate solution is for the federal government to promptly reduce water deliveries by 5 percent for all seven Colorado River states. This could be in effect until the water level of Lake Mead reaches, say, 75 percent of capacity.

Likewise, California should institute water-based financial rewards and penalties for all farms and cities.

As there are three theoretical techniques that may each reduce desalting costs by 75 percent, the federal government should triple funds for desalting research and development, with a focus on desalting powered by solar, wind, tidal or other sources.

To further prepare for certain lean water years, the federal government should assume a far more energetic leadership role in reducing global warming gases.

Without major water policy shifts, an economic collapse of California could start as early as 2008. Otherwise, as California has eight times as many people as Louisiana in 2004, an economic collapse could be more financially devastating than Hurricane Katrina.

■ Bird, a professor at the Community College of Southern Nevada, is an author of over 30 water-related articles. He can be reached via e-mail at mark_bird@ccsn.edu.

[»Next Story»](#)

Find this article at:

http://www.signonsandiego.com/uniontrib/20070309/news_lz1e9bird.html

Check the box to include the list of links referenced in the article.

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April 30, 2007

Bureau of Reclamation
Attn: BCCO-1000
PO Box 61479
Boulder City, NV 89006-1470

Via Fax: 702-293-8156

To Whom It May Concern:

INTRODUCTION

The Mohave County Water Authority (MCWA) submits the following comments to the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement (February 2007). MCWA is comprised of members representing Bullhead City (BHC), Lake Havasu City (LHC), Mohave Water Conservation District (MWCD), Mohave Valley Irrigation and Drainage District (MVIDD), Golden Shores Water Conservation District (GSWCD), City of Kingman and Mohave County. BHC, LHC, MWCD, MVIDD and GSWCD represent the first (and probably only) municipal / industrial users in the State of Arizona to be significantly and immediately impacted by projected shortages during the interim period. Because of our unique position in the State of Arizona, we renew our previously denied request for consultation on this matter as the draft EIS makes it abundantly clear that no one with whom Reclamation consulted was adequately representing the interests of Arizona's 4th priority on river users.

THE SEVEN BASIN STATES ALTERNATIVE

MCWA recognizes Arizona worked diligently with the other Basin states to achieve agreement on the Basin States' Preliminary Proposal recommended to the Secretary of Interior and on February 3, 2006 following the publication of the Draft EIS, and that Arizona has continued to work closely with the other states to refine and improve the Basin States' Preliminary Proposal and to develop one set of comments to the Draft EIS on behalf of all of the states ("Basin States Comments"). We understand the Basin states will be submitting the Basin States' Comments, together with the Basin States' Proposal, which will include the Basin States' Agreement, Proposed Interim Guidelines for Colorado River Operations draft Forebearance Agreement and Arizona-Nevada Shortage Sharing Agreement (Basin States Proposal). While MCWA has some significant reservations regarding the Basin States Alternative we join in Arizona's letter

submitted this date and Arizona's conclusion recommending the Secretary choose the Basin States alternative as the preferred alternative in the FEIS and adopt an ROD with the guidelines and criteria necessary to implement the Basin States Alternative in substantial conformance with the carefully negotiated Basin States Proposal provided such ROD adopts Arizona Department of Water Resources' Director's Shortage Sharing Workshop Recommendations, October 24, 2006 (Revised) final attached hereto as Exhibit 1.

COMMENTS TO ADDRESS CONCERNS SPECIFIC TO MCWA

1. No Action Alternative:

This alternative would provide no guidance to the on river 4th priority users in planning for shortages. Our members could suffer 30% shortages in both M&I and agricultural supplies as early as 2011. It gives no guidance as to how and when shortages would be imposed. It also assumes (a) the existing 602(a) interpretation would stand (see Arizona's letter for further discussion) and (b) the CRBPA requires on river agricultural and municipal/industrial users to be shorted immediately when CAWCD suffers shortages. This conclusion is not compelled by either the language in our contracts nor the CRBPA. This alternative leaves many unanswered questions both among the Basin States and within Arizona to be acceptable to MCWA.

2. Water Supply Alternative

The DEIS indicates that there would likely be no shortages in Arizona during the interim period under this alternative. In the short term this is clearly the best alternative for us, but we recognize the potential long term adverse consequences of this alternative and the likely conflicts it would cause among the Basin States. The compromises encompassed within the Basin States Proposal benefit the entire system and its long term benefits are reasons we support the Basin States Alternative versus the Water Supply Alternative.

3. Reservoir Storage Alternative

The modeling provided in the DEIS shows that this alternative would have a significant negative impact on the river communities in Mohave County. While the Reservoir Storage Alternative proposes to offset some of its impact with increased intentionally created surplus (ICS) the Arizona cities most immediately and severely impacted by this proposal, i.e., Lake Havasu City and Bullhead City, would be unlikely to benefit from an ICS program without a legal battle within Arizona.

MCWA for the above reasons, as well as the reasons set forth in Arizona's letter, strongly objects to the Reservoir Storage Alternative.

4. CBS Alternative

MCWA believes the concept of voluntary following, as well as the opportunity for participation by all parties (including Arizona's on river 4th priority users and Mexico) in the ICS program are laudable goals and request the FEIS adopt the Basin States Alternative as the preferred alternative but discuss further the steps which could be taken, within the Law of the River, to get the benefits likely to result from a voluntary following program (which would put following contracts in place NOW for future shortages and to broaden participation in the ICS program. Representing the communities which will take the first, and most significant, reductions in times of shortage we consider it incumbent upon the Secretary to take all reasonable steps to mitigate the impacts of shortage by supplementing the mitigation efforts we already have in place.

5. Additional Comments on the DEIS

A. ICS

Reclamation should, in the Final EIS, accurately describe ICS as a category of surplus, include a description of the forbearance necessary for the delivery of ICS to the entity that created the Surplus, and, in the record of Decision, adopt guidelines for the creation and delivery of ICS as set forth in the Proposed Interim Guidelines contained in the Basin States' Proposal. Reclamation should also take reasonable steps to provide that the benefits of ICS are available to all users particularly those immediately and significantly impacted by projected shortages, i.e., our members.

B. On River 4th Priority Agricultural Users

The draft EIS includes the following statement: "Key to the impact analysis is the assumption that the most conservative way to estimate impacts is to assume that, if a shortage occurs, farmers would react by following irrigated lands." (p.4-263) This is an adequate approach for analyzing shortage reductions expected to last for a single year. However, we disagree with the assumption that this approach captures the expected impact for multiple consecutive-year storage reductions. Since fourth priority agricultural water users in Mohave County, Arizona have no reasonably available replacement water supply, a long term shortage will likely result in the permanent loss of production for some lands.

The DEIS also fails to adequately address the impact on the economies of the impacted communities of this loss of agriculture by comparing the impact to the State and County overall. This serves to very much dilute the direct and immediate impact on the on river 4th priority user communities.

C. On River 4th Priority Municipal and Industrial Users

- As with on river agricultural users, the DEIS fails in any manner to address the direct and immediate impact of the projected shortages and cumulative shortages on municipal users of 4th priority on river users and again, lumps the communities together by County which significantly dilutes the local impact.
- The DEIS depletion schedules underestimate by 25-35% on river M&I water use (as compared, e.g., to Reclamation's own 2006 water use report) which again, serves to underestimate the extent and effect of shortages and makes it difficult to determine the actual shortage amounts we would be expected to suffer based on the DEIS hydrologic modeling.

The DEIS fails to address the significant costs borne by our members to date, and the even higher costs to be borne in the future, of the mitigation efforts taken to date (primarily participation in the Arizona Water Banking Authority (AWBA) program which costs include water, delivery, storage, recovery and replacement of any water used in times of shortage). The significant economic hardship of using AWBA water in times of shortage, particularly in multiple year shortage occurrences, is totally ignored by the DEIS. The DEIS also ignores the hundreds of millions of dollars our communities have spent/are spending to convert from septic to wastewater treatment systems in order to generate effluent to offset the impacts of shortage.

Future estimated shortage reductions to mainstream users, including Lake Havasu City and Bullhead City, run as high as 30% of entitlement over a number of consecutive years. Despite the conclusion in the DEIS that no permanent changes in land use are expected (p.4-270) it is highly unlikely that such significant cutbacks

- in supply, and as early as 2011, would not alter land use patterns in the affected communities.
- The DEIS goes to great lengths to address impacts in Nevada (ostensibly in support of the extreme measures be proposed to solve both its long term and shortage supply needs) and the Central Arizona Project area while totally ignoring that Arizona's on river 4th priority users are in a far worse position for a number of reasons including:
 - (1) Neither our agricultural nor M&I users have a readily available alternative source of water (e.g., no adjacent tributaries, non related surface water flows, nor (based on Reclamation's current interpretation of Article v accounting under the Consolidated Decree in *Arizona and California*) is there any locally available, non-Colorado River water supply to offset shortage reductions.
 - (2) The small (relative, e.g., to the SNWA and CAP service areas) population in the area, and the large geographic distances separating the on river P4 users, make financing of any water importation project unlikely at best.
 - (3) Following agreements, e.g. with farmers or tribes, as are available to Central Arizona Project communities are not available to on river P4 users for a variety of reasons including the trading of our priority for the CAP (which did not benefit, and arguably harmed, on river users), on river tribes in Mohave and LaPaz settling their claims before our communities existed and thus such settlements make no provision for leasing to adjacent municipalities and the apparent position of Arizona and CAP that ICS in any form is not available to us without forbearance by Arizona and CAP (parenthetically it is interesting to note forbearance for users in other states appears to take priority over Arizona's in state users).
 - (4) Limited, if any (investigation is ongoing) adjacent basins unconnected to the River in which recharge, and recovery, could occur (i.e., our own banking program).
- The ROD needs to include the Arizona –Nevada shortage sharing agreement and a provision that the proceeds of that agreement are

to first be used to hold the on river P4 M&I users, the first impacted by this "deal", harmless (i.e., as to water and money) from the impact of this sharing agreement. Arizona has verbally indicated to MCWA that this is the intent but due to the immediate and detrimental impact of the Arizona/Nevada agreement take the position this commitment should be included in the ROD.

D. Additional Comments

- An agreement with Mexico is a critical component of the Basin States Proposal and MCWA's support of same. The impacts of a failure to reach such an agreement are not modeled in the DEIS.
- MCWA, its members, and Arizona as a whole appear to be penalized in the DEIS for its active planning for drought for decades. The DEIS dismisses the significant economic impact of the investments made to date, and projected into the future, by coming to the erroneous conclusion that due to Arizona's drought planning, there is no real impact on its M&I users.
- The projected depletion schedules and shortage impact tables in the DEIS do not accurately portray the various contracts and contract amounts held by MCWA and its various subcontractors. This should be corrected in the FEIS.
- Because a shortage has not been declared to date on the River, and because our M&I users take the most immediate and significant and disproportionate reductions, the FEIS should include a program for monitoring the economic, land use and public policy impacts of any declared shortage during the proposed interim period.
- Operation of the YDP at full capacity should commence as soon as possible in order to stop the loss of water now occurring as a result of the bypass flows to the Cienega de Santa Clara.
- Reclamation should immediately undertake programs and projects to augment system flows.
- Final shortage guidelines should be flexible in order to allow the appropriate response to changing conditions including, but not limited to, improved hydrologic conditions during the year(s) in which a shortage is declared and catastrophic conditions requiring cuts in excess of 600,00 a/f.

Bureau of Reclamation
Attn: BCCO-1000
April 30, 2007
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CONCLUSION

Subject to Arizona's comments as submitted by ADWR, and our comments as noted above, the Mohave County Water Authority strongly recommends that the Secretary choose the Basin States Alternative as the preferred alternative in the FEIS and adopt a ROD with the guidelines and criteria necessary to implement the Basin States Alternative in substantial conformance with the carefully negotiated Basin States' Proposal.

Sincerely,



Diane Vick
Mayor

>>> Julia Burwell <jules0342@msn.com> 04/17/07 12:39AM >>>

Dear Mr. Johnson and Mr. Gold:

Lake Powell and Lake Mead lose 17 percent of the water that flows into them through evaporation. Vacant space in underground aquifers near existing Colorado River water recharge facilities could store more water than these two reservoirs combined. Upwards of 810,000 acre-feet of water annually could be saved by eliminating Lake Powell and operating Lake Mead principally for distribution to groundwater recharge facilities.

After more than 40 years of operation, it was not until the fall of 2004 that Lake Powell's water storage actually augmented downstream water use. And with the impacts of climate change and rising water consumption, it is unlikely that there will be sufficient surplus water to fill Lake Powell again. Even should surplus water accumulate, Lake Mead alone could provide sufficient storage.

Between Lake Powell and Lake Mead lies Grand Canyon National Park. The operation of both these reservoirs has impacted the Canyon, but Glen Canyon Dam at Lake Powell has been far more devastating. Since the dam's completion four of eight native fish have gone extinct and the dam has trapped the sediment necessary to maintain habitat and beaches for wildlife and recreation, as well as the stabilization of archeological sites.

Sediment is a major unresolved problem threatening the long-term operations of Lake Powell and Lake Mead. Ultimately, sediment must be removed to ensure public safety. Removing sediment from Lake Mead downstream, rather than Lake Powell upstream is the most technically feasible, least costly and environmentally advantageous approach.

The Colorado River Compact of 1922, which largely governs the operations of Lake Powell for Lake Mead, cannot meet its intended purpose of equitably sharing Colorado River water between the Upper and Lower Basin states. With River flows expected to decline 18 percent by 2040, this inequity will worsen, furthering the need for Compact amendments while highlighting the benefits of eliminating Lake Powell to fulfill the Compact's primary objective.

Julia Burwell
31 Crescent Key
Bellevue, WA 98006



FAX COVER

P.O. Box 43020 • Phoenix, AZ 85080-3020
 23636 N 7th Street • Phoenix, AZ 85024
 Phone: 623-869-2333 • www.cap-az.com

Date: 4/30/07
 To: Regional Director
Lower Colorado River Region Company: _____
Bureau of Reclamation
 Phone: _____ Fax: 702-293-8156
 From: David S. Wilson Phone: 623-869-2333

You should receive 5 page(s) including this cover sheet.

Comments: _____

If you do not receive all the pages or have problems with this transmission, please call: Sue @ 623-869-2378



P.O. Box 43020 • Phoenix, AZ 85080-3020
23636 N. 7th Street • Phoenix, AZ 85024
623-869-2333 • www.cap-az.com

April 30, 2007

Via U.S. Mail and Facsimile at 702-293-8156

Regional Director
Lower Colorado Region
Bureau of Reclamation
Attention: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Dear Regional Director:

The Central Arizona Water Conservation District (CAWCD) submits the following comments on the Bureau of Reclamation's February 2007 Draft Environmental Impact Statement on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (DEIS). CAWCD also endorses the comments on the DEIS submitted by the Arizona Department of Water Resources and the seven Basin States.
Support for Basin States Alternative

CAWCD supports adoption of the Basin States alternative as the preferred alternative. The Basin States alternative is the only alternative that can be implemented under the existing Law of the River with the cooperation of the seven Basin States.

Under the Basin States Proposal, Arizona has agreed to take shortages during the interim period when Lake Mead reaches certain trigger elevations, even though water is still available in storage at those elevations to satisfy Arizona's full entitlement. The significance of that concession by Arizona to accommodate a seven Basin States agreement cannot be overstated. To prepare for those shortages, Arizona has already spent more than \$100 million to store water and will spend hundreds of millions more for additional storage and future recovery.

No Action Alternative is Improper Both as a Baseline and for Future Operations

Each of the alternatives modeled in the DEIS assumes that Reclamation will return to the rules of the No Action alternative after 2026. But the rules of the No Action alternative are flawed and inconsistent with the Law of the River.

The No Action alternative employs an 80P1050 strategy, which would prevent Lake Mead from declining below elevation 1050 with an 80 percent probability. This operating strategy would

Regional Director, Lower Colorado Region
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require Reclamation to declare shortages in the lower basin—more specifically, shortages to Arizona and Nevada—even when there was more than enough water in storage in Lake Mead to satisfy all lower basin entitlements. As shown in Figure 2.2-1 of the DEIS, the 80P1050 rule would dictate a shortage declaration in 2060 when Lake Mead was above 1150' msl and holding more than 16.5 million acre-feet in storage. There is no legal or rational basis for such action.

The operating rules of the No Action alternative also provide absolute protection for Southern Nevada Water Authority's lower intake at elevation 1000 in Lake Mead. The DEIS ignores the fact that SNWA will have lowered its intake to below elevation 895 by around 2012, making absolute protection of elevation 1000 both unnecessary and improper.

The No Action alternative also uses the Interim 602(a) Storage Guideline adopted by the Secretary in 2004 for use through 2016. As explained more fully in Arizona's November 28, 2005 scoping comments (copy attached to Arizona's comments on the DEIS), the current guideline does not properly implement the requirements of section 602(a) of the Colorado River Basin Project Act of 1968.

Forbearance Required for Delivery of Conserved Water

Both the Conservation Before Shortage (CBS) alternative and the Reservoir Storage alternative include provisions for the storage and delivery of conserved water, similar to that proposed under the Basin States alternative. But when the delivery of conserved water would result in a total consumptive use in excess of 7.5 million acre-feet in the three lower basin states, the excess must be apportioned among the lower basin states in accordance with Article II(B)(2) of the Consolidated Decree in *Arizona v. California*. The only way in which the Secretary can deviate from the requirement of the Consolidated Decree is if the States agree to forbear the delivery of such excess water. The Basin States Proposal includes a draft forbearance agreement for that purpose. But the States have not agreed to forbear for purposes of the CBS or Reservoir Storage alternatives. Therefore, the provisions for storage and delivery of conserved water under those two alternatives cannot be implemented.

Water Supply Alternative

We note that adoption of the Water Supply alternative would result in no anticipated shortages to Arizona during the interim period. Accordingly, that alternative would appear to best satisfy Reclamation's contractual obligation to Central Arizona Project subcontractors. Each of the more than 60 subcontracts for delivery of CAP water for municipal and industrial and agricultural uses that Reclamation has entered into provides that, in determining the amount of Colorado River water available for delivery through the CAP each year, Reclamation "shall use [its] best efforts to maximize the availability and delivery of Arizona's full entitlement of Colorado River water over the term of this subcontract." Those subcontract commitments limit whatever discretion the Secretary might otherwise have in allocating shortages in the Lower Basin.

Regional Director, Lower Colorado Region
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While the shortage guidelines of the Water Supply alternative are appealing to CAP water users, we recognize that this alternative does not have the support of the Basin States. Accordingly, CAWCD supports the Basin States Proposal, which reflects the many compromises that have been made by the seven states.

DEIS Mischaracterizes CAWCD's Water Delivery Contract

Table E-1 of the DEIS indicates that CAWCD is only entitled to the delivery of 1.49 million acre-feet as Arizona 4th priority water, and that the remainder of the CAP supply holds a "Bank" priority that is below Arizona 5th priority. That is incorrect.

CAWCD's master repayment and water delivery contract allows it to take all that remains of Arizona's 2.8 million acre-foot entitlement after Arizona's 1st through 3rd priority uses have been satisfied, sharing up to 164,652 acre-feet of that supply with other Arizona 4th priority water users. In general, the Arizona Water Banking Authority (AWBA) may not store Colorado River water that would otherwise have been used in Arizona by a Colorado River contractor. A.R.S. §45-2427(B). Because of that state statute, certain Arizona 5th priority water users have been allowed to take delivery of Colorado River water ahead of the AWBA. That does not give those users priority over CAWCD, and CAWCD may deliver its entire contract entitlement as Arizona 4th priority water.

This mischaracterization of CAWCD's priority distorts the results of the DEIS shortage allocation model. The model allocates the first increment of Arizona shortage solely to the CAP supply in excess of 1.49 million acre-feet, then apportions the remaining 4th priority water among all 4th priority water users, including CAP. The net effect is to overstate the total shortage to the CAP supply.

DEIS Improperly Allocates Shortages

In the Arizona-Nevada Shortage Sharing Agreement included as part of the Basin States Proposal, Arizona and Nevada have agreed to share specified shortages to the Lower Basin States. The DEIS should reflect the terms of that agreement in describing and modeling the Basin States alternative.

For any alternative other than the Basin States alternative, the Secretary would have to develop his own guidelines to address the issue of California's priority and the method of allocating shortages in accordance with the Law of the River. The shortage guidelines assumed in the DEIS do not comport with the law.

Article II(B)(3) of the Consolidated Decree in *Arizona v. California* requires that, in time of shortage, present perfected rights (PPRs) are to be satisfied first, in order of priority and without regard to state lines, and then the remaining available supply is to be apportioned after consultation with major Colorado River contractors and the Lower Basin States. Section 301(b) of the Colorado River Basin Project Act, 43 U.S.C. §1521(b), directs that pre-1968 contractors and federal reservations in all three Lower Basin States are to be satisfied after PPRs, with the remaining supply apportioned among CAP and other post-1968 uses. Thus, the Secretary is

Regional Director, Lower Colorado Region
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April 30, 2007
Page 4

required by the Law of the River to use a "bottom up" approach when allocating shortages within the Lower Basin, satisfying first PPRs, next pre-1968 uses, and finally CAP and other post-1968 uses.

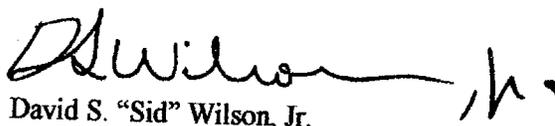
Rather than follow the "bottom up" allocation method prescribed by law, the DEIS assumed a "top down" methodology under which the first step was to reduce consumptive uses in Arizona and Nevada. The effect of that approach is to overstate shortages to Arizona and CAP.

The DEIS also assumes that all consumptive uses in California are entitled to priority over Arizona's fourth priority users, including the CAP. But the priority granted to California in 43 U.S.C. §1521(b) applies only to water users in that state served under delivery contracts entered into before September 30, 1968, and by diversion works already constructed as of that date.

Conclusion

The Basin States alternative offers distinct advantages over every other alternative. First, it sets forth shortage guidelines that can be implemented by agreement among the Lower Basin States, thereby avoiding potential disputes over the meaning and application of the Consolidated Decree and the Colorado River Basin Project Act. Second, it describes a program for the coordinated operation of Lake Powell and Lake Mead that all seven Basin States have agreed to accept for the interim period, postponing potential litigation over the Colorado River Compact and Long Range Operating Criteria. Finally, it provides for the storage of conserved water in the Lower Basin and the forbearance necessary to allow delivery of that stored water to the storing entity. For these reasons, CAWCD urges the Secretary to adopt the Basin States alternative.

Sincerely,



David S. "Sid" Wilson, Jr.
General Manager

:smu

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901.06

c: Herb Guenther, Arizona Department of Water Resources

From: sherry celine [sceline53@yahoo.com]

Sent: Wednesday, March 07, 2007 12:44 PM

To: strategies@lc.usbr.gov

Subject: drought input

Re Colorado Drought Plan: My proposal is to limit building permits, protect the water we have by implementing substantial fines for polluters, start a conservation plan similar to Tucson & Flagstaff . Thanks for the opportunity to input, Sherry Celine

Need Mail bonding?

Go to the [Yahoo! Mail Q&A](#) for [great tips from Yahoo! Answers](#) users.

>>> <Gregg.Capps@chandleraz.gov> 04/30/07 3:37 PM >>>
Regional Director
Bureau of Reclamation

Please accept the following comments on behalf of the City of Chandler, Arizona regarding the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement. The City of Chandler will also submit a written copy via mail that is post marked on April 30, 2007. Thank you for the opportunity to provide these comments.

(See attached file: EIS Comment Letter.pdf)

Gregg Capps
Water Resource Manager
City of Chandler
(480)-782-3585

2. Chandler supports the selection of the Basin States Alternative as the preferred alternative. Chandler also supports mandatory guidelines as set forth in this alternative be established that the Secretary will use to declare a shortage in the lower Colorado River Basin. This alternative can be implemented immediately and without additional statutory authority. Implementing the Basin State alternative will decrease the existing uncertainties related to future Lower Colorado River basin water supply shortages and their magnitude.
3. The preferred alternative and the Record of Decision (“ROD”) should be consistent with Arizona’s position regarding intrastate shortage sharing as described in the “Director’s Shortage Sharing Workgroup Recommendation, October 24, 2006 (Revised) Final”.
4. The Secretary should not adopt an alternative that prioritizes power generation ahead of water supply.
5. DEIS must assume the Yuma Desalting Plant is operating.
6. DEIS has failed to examine the socio-economic effects that municipal water users in Arizona will experience during a maximum M&I shortage. It should not be assumed socio-economic impacts from changes in deliveries of CAP water to Chandler or other Arizona municipalities could be minimized in any material way, by demand-side and supply-side strategies.

We appreciate the opportunity to comment on this Draft Environmental Impact Statement. Please contact Gregg Capps at 480-782-3585 if you have any comments or questions on this response.

Sincerely,



Karen Barfoot
Assistant Municipal Utilities Director

xc: Steve Olson, Director, AMWUA
Doug Toy

From: Jerry Zimmerman [grzimmerman@crb.ca.gov]

Sent: Monday, April 30, 2007 2:23 PM

To: danielle_robinson@ios.doi.gov; bjohnson@usbr.gov; Jayne Harkins; Rick Gold; 'LC strategies'

Cc: bart@fisherwireless.com; Pat Tyrrell; pat.mulroy@lvvwd.com; hrguenther@azwater.gov;

rod.kuharich@state.co.us; Scott Balcomb; Dennis Strong; John R. D'Antonio, Jr.; Richard Bunker; Don Ostler

Subject: Comments on Reclamation's DEIS

Attachments: Congressional Budget Justification FY 2008 US Dept of State Page 838.PDF; Kempthorne Ltr_04302007.pdf; Table E-2 Comments.pdf; Table G-18 Comments.pdf

Attached for your consideration are the comments and supporting documentation of the Colorado River Board of California on the DEIS for *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*. Thank you for providing the Board the opportunity to comment on this important matter. A hard copy is being sent to you under a separate cover.

Thanks,

Jerry

Gerald R. Zimmerman
Executive Director
Colorado River Board of California
770 Fairmont Ave., Suite 100
Glendale, CA 91203

Phone: (818) 500-1625

Fax: (818) 543-4685

Mobile: (818) 400-8988

**CONGRESSIONAL
BUDGET JUSTIFICATION**

FISCAL YEAR 2008



**United States
Department of State**

INTERNATIONAL BOUNDARY AND WATER COMMISSION - SALARIES AND EXPENSES

Administration

(\$ in thousands)

	Positions		Total Funds
	American	FSN	
FY 2008 Request	59	0	5,799

The FY 2008 budget request is \$5,799,000 for IBWC Administration activities.

FY 2007 Administration Department plans consist of the following:

- Implementation of the provisions of existing treaties and binational agreements;
- Pursue compliance and implementation of applicable domestic laws, mandates, and regulations;
- Continue to exercise the agency's administrative functions and activities, including human resources management, budget, procurement, payroll, property, and finance and accounting with modern information management capabilities using established internal control procedures;
- Ensure full implementation of policies and procedures, which conform to federal statutes and regulations, by using the Commissioner's executive staff which include, two principle engineers, chief administrative officer, legal counsel, and foreign affairs advisors who possess the expertise in the complexities related to international negotiations and agreements and provide guidance on all matters related to the full scope and operations of the USIBWC;
- Publication of the proceedings of the Binational Rio Grande Summit. Based on the results of the Summit, submit recommendations to the two Governments for the sustainable management of the Rio Grande Basin;
- Conclude a minute related to implementation of the IBWC Minute 311/Public Law 106-457 sanitation project for San Diego-Tijuana;
- Conclude discussions or consultations with Mexico related to development of shortage criteria for Colorado River deliveries carried out pursuant to the 1944 Water Treaty;
- Engage in consultations with Mexico regarding Mexican water deliveries to the United States under the 1944 Water Treaty;
- Continue to aggressively pursue implementation of the President's Management Agenda Program Initiatives, and in accordance with the various laws, regulations, and OMB circulars and guidance;
- Continue to fully comply with the President's goal to eliminate improper payments, which the USIBWC has excelled in meeting in prior years. Independent financial audits for the last five years confirm that the USIBWC fully implements generally accepted accounting principles for federal financial reporting purposes;
- Develop an information resources management (IRM) plan, which describes information and technology management functions and activities, along with an information technology/information resources management (IT/IRM) plan. This plan supports the USIBWC Strategic Goals, ensuring that IT investments are provided and funded only where they have the greatest impact on mission results;
- Continue to utilize the Capital Planning & Investment Control (CPIC) process to assist in the review of new capital investments for construction projects;
- Initiated the development of all Federal Information Security Management Act (FISMA) requirements;
- Comply with new initiatives in accordance with OMB Circulars A-123;
- Full implementation of Executive Order 13031, Federal Alternative-Fueled Vehicle Leadership.

COLORADO RIVER BOARD OF CALIFORNIA

770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1068
(818) 500-1625
(818) 543-4685 FAX



VIA: Electronic Mail
& U.S. Mail

April 30, 2007

The Honorable Dirk Kempthorne, Secretary
Department of the Interior
1849 C Street, NW
Washington, D.C. 20240

Re: Colorado River Board of California Comments on *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Dear Secretary Kempthorne:

Thank you for the opportunity for California to provide comments on the *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* (72 FR 39, 9026-9028) (February 28, 2007) ("DEIS") released for review and comment by the U.S. Bureau of Reclamation (Reclamation). The purpose of this letter is to provide the Department of the Interior and Reclamation with several comments associated with the DEIS, as well as indicate California's overall support for the adoption of the Basin States Alternative as the preferred alternative in the Final Environmental Impact Statement (FEIS) and subsequent Record of Decision (ROD).

As the Department of the Interior knows, the water and power resources of the Colorado River System are of utmost importance to the 36 million residents in the State of California, particularly the nearly 21 million residents in the metropolitan and agricultural regions of southern California. Water supplies diverted from the mainstream of the Colorado River, and utilized in southern California, support an overall service area economy in excess of \$850 billion annually. Consequently, decisions made regarding the management, use, and accounting of Colorado River water are of significant interest and concern to the State of California, the Colorado River Board of California (Board), as well as specific agencies within California holding entitlements to Colorado River mainstream water.

With the adoption of the Interim Surplus Guidelines in January 2001 and California's implementation of the 2003 Colorado River Water Delivery Agreement and Quantification Settlement Agreement (QSA), the State's Colorado River water entitlement-holders have worked diligently to ensure that California continues to live within its basic mainstream apportionment of 4.4 million acre-feet, while encouraging and supporting the efficient management and administration of the Colorado River reservoir system. Ongoing programs and activities within California and the other Lower Division States contribute to more efficient management of the water supplies stored, diverted, and used by entitlement-holders in the Lower and Upper Basins (e.g., All-American Canal

The Honorable Dirk Kempthorne, Secretary
April 30, 2007
Page 2

Lining Project, Lower Colorado Water Supply Project, Off-stream storage programs, weather modification demonstration programs, etc.).

With the goal of establishing an interim period of more efficient reservoir system management and shortage guidelines during periods of drought within the Basin, California urges the Department of the Interior to adopt the Basin States' Alternative as articulated in the Basin States' Proposed Guidelines as the preferred alternative in the FEIS and subsequent ROD. Toward this end, California joins with the other six Colorado River Basin states in support of the following elements of the Basin States' package submitted to the Department of the Interior and Reclamation on April 30, 2007: (1) Basin States' Letter, dated April 30, 2007; (2) Proposed Interim Guidelines for Colorado River Operations; (3) Agreement Concerning Colorado River Management and Operations; (4) Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement; and (5) Shortage Sharing Agreement between Arizona and Nevada. An additional element of this package will need to be a water delivery agreement or agreements between the Secretary and the Parties to the Forbearance Agreement.

California's Specific Comments on the DEIS

In addition to California's endorsement and support of the Basin States' Alternative, the Board submits several specific comments regarding the information described within the DEIS. These comments address issues or concerns that for the most part are unique to California and are therefore submitted separately from the comments submitted on April 30, 2007, by the Colorado River Basin States Governors' Representatives on Colorado River Operations. These specific comments or concerns include the following:

Issues Related to Stage-Two Shortage-Sharing

In various places within the DEIS (e.g., section 2.2.1 on pages 2-5 and 2-6 and section 4.2.7.1 on pages 4-9 and 4-10), the document sets forth an assumption regarding Stage-Two shortages that result in California receiving 60 to 65 percent of such shortages. This is an incorrect assumption under the Law of the River and does not reflect the priority position of the California water delivery contractors relative to the positions of other Colorado River mainstream entitlement-holders.

If interim guidelines on Colorado River operations proposed for adoption by the Secretary cover possible shortage situations greater than the post-September 30, 1968, volume of contractual and other water rights (approximately 1.7 to 1.8 million acre-feet (maf) depending upon the year), then imposition of Stage-Two shortages would be based on the priority dates of the water entitlements in the June 25, 1929, to September 30, 1968, pool of contracts and other water rights without regard to state lines. Delivery of water would then be reduced to the holder of the second most recent priority if insufficient water were available for delivery. Reductions in deliveries would then continue in

reverse order of priority date. If the maximum shortage considered for purposes of this DEIS during the interim period is 2.5 maf, then the correct assumption is that California entitlement-holders would not experience a reduction in deliveries during a Stage-Two shortage.

Tables E-2 and G-18 and California Entitlement Holders

Table E-2 (State of California Colorado River Water Entitlement Holders and Priorities; Appendix E) contains a listing of California entitlement-holders and their diversion and consumptive use entitlements. Table G-18, (State of California; Appendix G) contains the listing of California entitlement-holders and their assumed adjusted deliveries during a 400,000 acre-foot shortage in 2017. These two tables contain several errors. For ease of reference, the Board has attached corrected versions of these tables and requests Reclamation to make these corrections in the FEIS.

Both Tables E-2 and G-18 imply that Water Certificates have been issued for use of water on the Yuma Island in California. The Board has found no evidence of the issuance of any Water Certificates for use of water on the Island. Thus, Reclamation should clarify this fact in the FEIS and revise the tables accordingly.

Furthermore, Reclamation should refer to the August 5 and 9, 2002, "Submittal of the Colorado River Board of California, Coachella Valley Water District, Imperial Irrigation District, Los Angeles Department of Water and Power, Metropolitan Water District of Southern California, Palo Verde Irrigation District, and San Diego County Water Authority regarding 'Review of Water Use On The Yuma Island,'" copies of which were provided to Reclamation's Lower Colorado Regional Director. It has been the long-standing position of the Board and the six agencies that water use on Yuma Island in California are illegal and should be eliminated, particularly when California is limited to use of 4.4 maf of water from the Colorado River.

Lake Mead Reservoir Elevations

Two of the alternatives analyzed in the DEIS include imposition of reduced deliveries to permit the elevation of Lake Mead to remain at or above elevation 1,000 feet, Southern Nevada Water Authority's lowest water intake. This condition, however, was not an element of the Basin States' Alternative. California suggests that, in order to present information on the full range of potential impacts associated with possible droughts that is as complete and accurate as possible, the FEIS include 2005 natural flow data and further sensitivity analysis of the possible influence of climate change and global warming on runoff during the 2008 to 2060 study period. In this regard, California suggests that Reclamation review the latest data and information from reports such as the recent United Nations report on climate change and global warming and other proxy record data describing potential streamflow and precipitation conditions within the Colorado River Basin.

Voluntary/Involuntary Shortages & Economic Impacts Analysis

In numerous places in the DEIS the potential impacts of voluntary (i.e., contained within the ‘Conservation Before Shortage’ Alternative) and involuntary shortages are analyzed and discussed. As a general matter, California suggests that the potential socioeconomic and air quality impacts of such shortages need to be more fully addressed. For example, under the ‘Conservation Before Shortage’ Alternative the maximum suggested water conservation amount is 600,000 acre-feet in one year. If that were to be carried out through land fallowing, about 100,000 acres of farmland would need to be fallowed. Although the exact location of the fallowed farmland cannot be forecast with precision at this stage, the general location of the larger irrigation districts in California and Arizona is well understood. Accordingly, the FEIS should contain a more thorough explanation and analysis of the potential impact resulting from land fallowing as a means of voluntary conservation.

With respect to the ‘Conservation Before Shortage’ Alternative, page 4-275 of the DEIS states that the potential socioeconomic impacts resulting from voluntary shortages would be offset by payments made to farmers to forgo raising crops. Given the large volume of fallowing that might occur under this alternative, it is unclear whether this is a correct assumption supported by available data. For example, the FEIS should include reference to economic data related to ongoing voluntary fallowing programs to either support or refine this conclusion.

The air quality section of the DEIS at page 4-149 describes the potential effects on air quality at Lake Powell, Lake Mead, and the Glen Canyon-Lake Mead reach from particulate matter emissions. This section of the DEIS does not describe the potential effects on air quality resulting from the fallowing of as much as 100,000 acres of farmland as a voluntary conservation measure or how those potential effects may be minimized and mitigated.

Default Operating Criteria after Termination of the Interim Guidelines

Consistent with the 2001 Interim Surplus Guidelines, the Basin States’ Proposed Interim Guidelines state: “At the conclusion of the effective period of these Guidelines, the operating criteria for Lake Powell and Lake Mead are assumed to revert to the operating criteria used to model baseline conditions in the Final Environmental Impact Statement for the Interim Surplus Guidelines dated December 2000 (i.e., modeling assumptions are based upon a 70R strategy for the period commencing January 1, 2026 (for preparation of the 2027 AOP)).”

The Basin States’ proposed guidelines regarding access to surplus supplies address a full range of expected operations for both Lake Powell and Lake Mead during the interim period of 2008 through 2025 (through preparation of the 2026 AOP). Since there is no reliable way to predict the elevation of the reservoirs on January 1, 2027, it is important to address the possibility that the Lower Basin would be in a Shortage Condition, rather than in a Surplus Condition.

The DEIS addressed this scenario. Presumably, the FEIS, new interim surplus guidelines, and ROD also will address this possibility of shortage conditions. Therefore, to be consistent with the assumptions in the DEIS, California suggests that Reclamation apply the modeling assumption of “80P1050” (shortage trigger elevation to prevent Lake Mead’s water level from declining below 1,050 feet with approximately an 80 percent probability, commencing January 1, 2026) for preparation of the 2027 AOP. Reclamation would apply this default strategy if the Secretary and the Basin States could not agree on an operating strategy that extends or modifies any new interim guidelines for Colorado River operations.

Recent Mainstream Water Use by California

Several places in the DEIS suggest that California is in the process of *reducing* its water use from the Colorado River (see, e.g., p. 1-22:4-6, p. 1-25 and 3-36). These sections of the DEIS reflect an inaccurate perspective. As Reclamation has reported in its annual “Colorado River Accounting and Water Use Report, Arizona, California, and Nevada,” California’s annual Colorado River water use was less than 4.4 million acre-feet in 2004 and 2005. Accordingly, it is inaccurate to suggest that California needs to implement programs to assist “in reducing its projected Colorado River depletion to its normal apportionment of 4.4 maf” (page 3-36). Under the current version of California’s Colorado River Water Use Plan and other documents, such as the 2003 QSA and related agreements, California is in the process of shifting some water use within its 4.4 maf per year normal apportionment, from agricultural to municipal/industrial use for a period of years.

Description of Conservation Before Shortage Alternative

In various places in the DEIS, and specifically in Appendix M (modeling assumptions) the ‘Conservation Before Shortage’ Alternative is discussed and analyzed. However, Reclamation does not carefully distinguish between two separate components advanced in the ‘Conservation Before Shortage’ Alternative in Chapter 2 of the DEIS, Description of Alternatives, at page 2-12:

- 1) actions to avoid a shortage by paying users to fallow land; and
- 2) allowing “others” to participate in the Intentionally Created Surplus (ICS) program by creating ICS credits to meet certain proposed consumptive uses.

The main purpose of the ‘Conservation Before Shortage’ Alternative, is to create storage in Lake Mead through compensated voluntary land fallowing, hopefully to counteract the impact of Lower Basin shortages. Lake Mead would retain that water presumably to forestall a shortage threat,

instead of devoting that water to specific downstream uses.¹ In contrast, the development of ICS credits by “others” is for the specific purpose of having water that can then be *used* for specific environmental or other purposes either within the United States or in Mexico. Section 2.4 of the FEIS should clearly explain these concepts so that the reader fully will understand these two distinct operational approaches.

Mexican Treaty Issues

The “Congressional Budget Justification, Fiscal Year 2008, United States Department of State,” states on page 838 (copy attached) that the United States Section of the International Boundary and Water Commission (USIBWC) plans to:

“Conclude discussions or consultations with Mexico related to development of shortage criteria for Colorado River deliveries carried out pursuant to the 1944 Water Treaty”

in Fiscal Year 2007. California fully supports the conclusion of these discussions or consultations in Fiscal Year 2007 to permit USIBWC to inform Reclamation of the volume of deliveries to be made to Mexico, beginning in 2008, in years in which insufficient mainstream water is available for release to satisfy annual consumptive use of 7.5 maf in Arizona, California, and Nevada.

Conclusion of these discussions or consultations is important because of the interrelationship between reductions in deliveries to Mexico during shortage conditions and the effectiveness of the Basin States Proposal for stepped reductions in deliveries to minimize the frequency and magnitude of shortages in the Colorado River System. The Basin States Proposal is premised on deliveries to Mexico being reduced in proportion to the reduction in deliveries to the Lower Division States under the Step One, Step Two and Step Three reductions, so that the aggregate annual reductions in deliveries in both the Lower Division States and Mexico under those steps will total 400,000 acre-feet, 500,000 acre-feet and 600,000 acre-feet, respectively. The DEIS has used this assumption in modeling the impacts of the Basin States Alternative, and the Basin States Agreement, which was included in the package submitted to the Department of the Interior on April 30, 2007, provides that California users shall not bear any portion of those reductions. These aggregate reductions in deliveries from Lake Mead are essential to maintain reservoir levels under the coordinated operating criteria contained in the Basin States Proposal. These stepped reductions are not the exclusive conditions under which deliveries to Mexico may be reduced, and other circumstances may require reductions in deliveries to Mexico under the 1944 Water Treaty with Mexico.

¹ See page 2 of the ‘Conservation Before Shortage’ proposal in Appendix K – “Federal ICS credits created in excess of the federal cap [of 1.5 maf to be devoted to replacement of bypass flows] would become system water.”

Elimination of Interim Surplus Guidelines benchmarks

Section 10 of the proposed Guidelines incorporates certain provisions from Section 5 of the Interim Surplus Guidelines (ISG) approved in 2001. The purpose and function of Section 5 of the ISG, and of the benchmarks in particular, was to provide assurances to the other Basin states as California reduced its use of Colorado River water from about 5.2 maf to 4.4 maf over a period of years. In fact, at the time of the development of the ISG this was referred to as a “soft landing” for California so as to not unnecessarily impose an abrupt usage reduction from 5.2 maf to 4.4 maf if surplus water was not available. However, in light of the drought situation that unfolded in 2002 and 2003, California was compelled to reduce its use of Colorado River water to 4.4 maf at the beginning of 2003, and California’s use of Colorado River water was below 4.4 maf in 2004 and 2005 and based on preliminary records in 2006.

Furthermore, the terms of the 2003 Colorado River Water Delivery Agreement, the QSA, and related agreements are binding on the California parties; and there is also an order of the California State Water Resources Control Board relating to the transfer of conserved water from Imperial Irrigation District. All of these factors indicate that circumstances have changed and the magnitude of California’s use of Colorado River water poses no meaningful risk to the other Basin states. Moreover, any failure or modification of the QSA and related agreements presents risks solely for parties within California who would then have to consider remedies that would be effectuated by the California parties. Stated differently, there is currently no meaningful purpose or function behind the California benchmark provisions in the proposed Guidelines (see sections 1.7.6.2, 1.8.3, and 1.8.4 of Volume 1 of the DEIS) as benchmarks for the State of California’s agricultural use are the subject of Section 8 of the October 10, 2003, Colorado River Water Delivery Agreement that Secretary of the Interior Norton signed. Thus, the benchmarks and associated text need not be a part of the final EIS and the ROD.

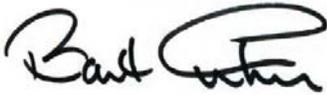
Conclusion

In summary, California wishes to reiterate its support for the Basin States’ Alternative, as described in the Basin States’ “Proposed Interim Guidelines for Colorado River Operations.” Further, California urges the Department of the Interior and Reclamation to adopt this proposal as the preferred alternative in the FEIS and to reflect this decision in the subsequent ROD. This proposal represents many months of hard work among the Basin States representatives; and it reflects the spirit of interstate comity and goodwill that has been developed during the course of this very important process. Finally, California requests that the Department of the Interior forward California’s specific comments on the DEIS to Reclamation for its use in preparing the FEIS for your review and concurrence.

The Honorable Dirk Kempthorne, Secretary
April 30, 2007
Page 8

The Colorado River Board of California thanks you for the opportunity to participate in this very important process, as well as providing you with specific comments on the DEIS. Please feel free to contact me at (818) 500-1625 if you have any questions, or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Dana B. Fisher, Jr.", written in a cursive style.

Dana B. Fisher, Jr.
Chairman

Attachments (3)

cc: Robert W. Johnson, Commissioner of Reclamation
Jayne Harkins, Acting Regional Director, Lower Colorado Region of Reclamation
Rick L. Gold, Regional Director, Upper Colorado Region of Reclamation
strategies@lc.usbr.gov
Colorado River Basin States Representatives

Appendix E Colorado River Water Entitlement Priority Systems within Arizona, California, and Nevada

Table E-2 State of California Colorado River Water Entitlement Holders and Priorities as of 2007

Priority	Entitlement Holder	Contract No.	Date	Use	Entitlement	
					Diversion	CU
Surplus	Bureau of Land Management	8-07-30-W0374	1973	M&I	4,000	1,000
	City of Needles	5-07-30-W0091	1985	M&I	40,000	10,000
	Coachella Valley Water District	7-07-30-W0150	1987	M&I/Ag	400,000	100,000
	Department of the Navy	6-07-30-W0351	1999	M&I	253	23
	Metropolitan Water District of Southern California	7-07-30-W0171	1987	M&I	480,000	180,000
	TOTAL				294,023	291,023
7 th	For agricultural use in the Colorado River Basin in California as said basin is designated on map no. 23000 of the Department of the Interior, Bureau of Reclamation					
6 th , 7 th , Unused & Surplus	Palo Verde Irrigation District (6b) - Lower Palo Verde Mesa Lands	PVID20733C	1933	Ag	≤16,000 acres	Unquantified
	Coachella Valley Water District (6a)	11r-781	1934	Ag		119,000
	Imperial Irrigation District (6a)	11r-747	1932	Ag		63,000
	Palo Verde Irrigation District (6b) - Mesa Lands Metropolitan Water District of Southern California	PVID20733C Colorado River Water Delivery Agreement	4933	Ag		38,000
TOTAL					300,000	
5 th , 6 th , Unused & Surplus	City of San Diego County Water Authority (5b) (transferred right to Metropolitan ET)	11r-1454	19334	M&I		662,000
4 th , 5 th	Metropolitan Water District of Southern California (5a) (Annexed 5b's Entitlement)	11r-645	1930, 1931	M&I		662,000
	TOTAL					662,000
	Metropolitan Water District of Southern California (4)	11r-645	1930, 1931	M&I		550,000
	TOTAL					550,000
3 rd , 4 th	Palo Verde Irrigation District (3b) - Lower Palo Verde Mesa Lands	PVID20733C_P5	1933	Ag	≤<16,000 acres	Unquantified
	Coachella Valley Water District (3a)	11r-781	1934	Ag		347,000 [CRB1]
	To permit the Secretary of the Interior to Satisfy Present Perfected Rights (PPR) Uses					3,000
	Metropolitan Water District of Southern California	Agreement Relating to Supplemental Water Delivery Agreement				[CRB2]
	San Diego County Water Authority	Colorado River Water Delivery Agreement				[CRB3]
	Imperial Irrigation Districts (3a) ^{2a}	11r-747	1932	Ag		300,470,561,469
2 nd , 3 rd	To permit the Secretary of the Interior to Satisfy PPR Uses					11,500
	Metropolitan Water District of Southern California	1988-Conservation Agreement and Approval Agreement	4988	M&I		8599,000
	Coachella Valley Water District	Approval Agreement				20,000
	San Diego County Water Authority	SDCWA Transfer Colorado River Water Delivery Agreement				7530,000 ³
1 st	Lower Colorado Water Supply Project	Lower Colorado Water Supply Project Exchange Contract				8,030 ⁴
	TOTAL	Water Certificates ⁵	1905	Ind./Ag	≤<25,000 acres	830,000,908,459
	Yuma Project, Reservation Division (includes Bard, Indian, Islands)					Unquantified

Colorado River Water Entitlement Priority Systems within Arizona, California, and Nevada

Appendix E

**Table E-2
State of California Colorado River Water Entitlement Holders and Priorities as of 2007**

Priority	Entitlement Holder	Contract No.	Date	Use	Entitlement		
					Diversion	CU	
1 st / ₂ nd	TOTAL				0	Unquantified⁰	
	Palo Verde Irrigation District (1) – Valley Lands	PVID20733C_P2	1933	Ag	≤104,500 acres unaffiliated	Unquantified	
	TOTAL				0	Unquantified⁰	
	One Acre PPR's	PPR's 45-80	1895-1928	M&I	36	21,62	
	Sonny Gowan (Gramm)	PPR 32 & 7-07-30-W0158	1928	Ag	180		
	Chagnon	PPR No. 41	1925	Ag	120		
	Stephenson	PPR No. 30	1923	Ag	240		
	Colorado River Sportsmen's League	PPR No. 36	1921	Ag	96		
	Andrade (AKA Andrade, Andrews, Bly, Brown, Carney, Daniel, Fairbanks, Glynn, Lindeman, Leon, Schroeder, Sherman, Perrett, Wetmore, Wetmore, Williams)	PPR No. 38	1921	M&I/Ag	66		
	Milpitas	PPR No. 34	1918	Ag	108		
	Lawrence	PPR No. 42	1915	Ag	120		
	Milpitas	PPR No. 37	1914	Ag	69		
	Morgan	PPR No. 33	1913	Ag	150		
	4 th (PPR's) ³ **	Chemehuevi Indian Reservation	PPR No. 22	2/2/1907	Ind.	(i) 11,340	or (ii) CU required for irrigation of 1,900 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
		Cooper	PPR No. 40	1905	Ag	60	or (ii) CU required for irrigation of 6,294 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
Yuma Project, Reservation Division (includes non-Indian portion/Island)		PPR 28 & Water Cert.	7/18/1905	Ind./Ag	(i) 38,270	or (ii) CU required for irrigation of 424,145 acres and for satisfaction of related uses, whichever of (i) or (ii) is less	
4 th (PPR's) ³ **	Reynolds	PPR No. 39	1904	Ag	36	or (ii) CU required for irrigation of 424,145 acres and for satisfaction of related uses, whichever of (i) or (ii) is less	
	Imperial Irrigation District (includes lands in CAWWD)	PPR No. 27	1901	Ag	(i) 2,600,000	or (ii) CU required for irrigation of 424,145 acres and for satisfaction of related uses, whichever of (i) or (ii) is less	
	Atchison, Topeka, and Santa Fe Railway Co. (being assigned to Needles)	PPR No. 44	1896	M&I	1,260	273	

**Colorado River Water Entitlement Priority
Systems within Arizona, California, and Nevada**

Appendix E

**Table E-2
State of California Colorado River Water Entitlement Holders and Priorities as of 2007**

Priority	Entitlement Holder	Contract No.	Date	Use	Entitlement	
					Diversion	CU
	Picacho Development Corp and CA Department of Parks and Recreation	PPR 31 & 8-07-30-W0187	1893	Ag	120	or (ii) CU required for irrigation of 2,587 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Fort Mohave Indian Reservation	PPR No. 25	9/18/1890	Ind.	(i) 16,720	or (ii) CU required for irrigation of 10,742 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Simons City of Needles	PPR No. 35 PPR No. 43/5-XX-30-W0445	1889 1885	Ag M&I	60 1,500	or (ii) CU required for irrigation of 10,742 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Fort Yuma Indian Reservation	PPR No. 23	1/9/1884	Ind.	(i) 71,616	or (ii) CU required for irrigation of 33,604 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Palo Verde Irrigation District	PPR No. 26	1877	Ag	(i) 219,780	or (ii) CU required for irrigation of 879 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Colorado River Indian Reservation	PPR No. 24	5/15/1876	Ind.	(i) 5,860	or (ii) CU required for irrigation of 879 acres and for satisfaction of related uses, whichever of (i) or (ii) is less

Colorado River Water Entitlement Priority Systems within Arizona, California, and Nevada

Appendix E

**Table E-2
State of California Colorado River Water Entitlement Holders and Priorities as of 2007**

Priority	Entitlement Holder	Contract No.	Date	Use	Entitlement	
					Diversion	CU
	Colorado River Indian Reservation	PPR No. 24	11/16/1874	Ind.	(i) 40,241	or (ii) CU required for irrigation of 6,037 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Colorado River Indian Reservation	PPR No. 24	10/22/1873	Ind.	(i) 10,745	or (ii) CU required for irrigation of 1,612 acres and for satisfaction of related uses, whichever of (i) or (ii) is less
	Yuma Associates LTD and Winterhaven Water District (262.8 M&I)	PPR 29 & 4-07-30-W0053	1856	M&I/Ag	780	
	TOTAL				3,019,573	4,245

Note: CU means Consumptive Use; all units are in AFY. Forbearances and Transfers/Leases are displayed below the Priority Entitlement Holder and indented five spaces.

¹Under contract 11-645, the Metropolitan Water District of Southern California has the exclusive right to withdraw and divert into its aqueduct any water in Lake Mead accumulated to the individual credit of said District (not exceeding at any one time 5 million acre-feet in the aggregate) by reason of reduced diversions by said District, provided that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion.

²ID's PPR protects 2,600,000 acre-feet of its Seven Party 3rd/4th Priority Entitlement. Therefore the Use of the 3rd/4th priority entitlement shown in this table is reduced by the PPR right, and forbearances and transfers as 44,500af reduction agreed to in the 2003 Colorado River Water Delivery Agreement, and the exchange for Lower Colorado Water Supply Project water QSA for the tribes. It is assumed that water forborne and transferred by IID QSA agreements retains a 3rd/4th priority right. Of the 667,459af remaining 3rd/4th priority right, IID forbears use of 11,500 af to permit the Secretary of the Interior to satisfy PPR use not covered by the Seven Party Agreement. 85,000 af for MWD, receives 90,000af and 20,000 af for CVWD, and IID transfers 50,000 af to San Diego County Water Authority receives 30,000-acre-feet in 2007. IID forbears use of Colorado River water for Lower Colorado Water Supply Project water discharged into the All-American Canal.

³In 2007, with 25,000 acre-feet of this amount for Salton Sea mitigation purposes.

⁴In 2007.

⁵Incorporation of Yuma Island pumps' use within this priority does not represent either a final approval of this use by Reclamation or a final determination of the appropriate Decree accounting for this use; and is not an admission by any Colorado River contractor as to the legality of this use or diversion of Colorado River water. No Water Certificates have been issued for use of water on the Yuma Island in California.

⁶PPR's are reduced last in the region, in order of priority date, regardless of state lines.

These priorities are based on the California Seven Party Agreement, modified to include the PPR's identified by the Consolidated Decree and executed contracts and agreements.

Page: 1

[CRB1]Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project with the amount equal to 327,000 minus the amount of water resulting from the Coachella Canal Lining Project made available to Metropolitan and San Diego County Water Authority.

Page: 1

[CRB2]Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Page: 1

[CRB3]Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Shortage Allocation
Model Documentation

Appendix G

1

Table G-18
State of California

2017	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE ^{1,2}		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
			State Consumptive Use						4,400,000			4,400,000		0
		15	Metropolitan Water District of Southern California ² (4)	11-645	1930-1931	M&I	550,000		464,935,547 -535	461,872,486 -872	464,935,547 -535	461,872,486 -872		0
			TOTAL				0	550,000	464,935,547 -535	461,872,486 -872	464,935,547 -535	461,872,486 -872	0	0
			PERCENT									100%		0%
		18	Palo Verde Irrigation District (3b) - Lower Palo Verde Mesa Lands	PVID2073C_P5	1933	Ag	≤16,000 acres	Unquantified	26,9090	11,4600	26,9090	11,4600	0	0
		6	Coachella Valley Water District (3a)	11-781	1934	Ag		347,900 [CRB1]	336,973 [CRB2]	327,900 [CRB3]	336,973 [CRB4]	327,900 [CRB5]	0	0
			Metropolitan Water District of Southern California or San Luis Rey Indian Water Rights Settlement Parties (Exchange with Metropolitan)	Agreement Relating to Supplemental Water		M&I or TBD		[CRB6]				[CRB7]		
			San Diego County Water Authority	Colorado River Water Delivery Agreement		M&I							[CRB10]	
		13	Imperial Irrigation District ³ (3a)	11-747	1932	Ag		93,459,561.4 59	96,146,577.292	93,459,561.4 -459	96,146,577.292	93,459,561.4 -459	0	0
		15	Metropolitan Water District of Southern California	1988 Cons. Agreement and Approval Agreement	1988	M&I		8599,000	85,000	85,000	85,000	85,000		
			Coachella Valley Water District	Approval Agreement /Acquisition Agreement		Ag		65,000	66,982	65,000	66,982	65,000		

¹Draft EIS – Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Table G-18
State of California

2017	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE ^{1*}		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
		21	San Diego County Water Authority****	Colorado River Water Delivery Agreement SDCWA Transfer		M&I		156,200,000	156,200	156,200	156,200	156,200		
			San Diego County Water Authority (Salton Sea Mitigation)	Colorado River Water Delivery Agreement			150,000		154,312	150,000	154,312	150,000		
			Metropolitan Water District of Southern California or San Luis Rey Indian Water Rights Settlement Parties (Exchange with Metropolitan)	Agreement Relating to Supplemental Water		M&I or TBD	11,500	11,500	11,500	11,500	11,500	11,500	Dependent upon demand and Protect capacity	Dependent upon demand and Protect capacity
			Lower Colorado Water Supply Project	2-07-30-W0280	1992	M&I	10,000	10,000	944,264	888,159	944,264	888,159	100%	0%
			TOTAL				4,028,159	4,028,159	944,264	888,159	944,264	888,159		
			PERCENT											
		26	Yuma Project, Reservation Division (includes Bard ³ , Indian ³ , Island ⁵)	Water Certificates ⁴	1905	Ind./ Ag	≤25,000 acres	Unquantified	13,644	7,545	13,644	7,545	7,545	0
			TOTAL	3,863,169			0	0	13,644	7,545	13,644	7,545	100%	0%
			PERCENT											

Shortage Allocation
Model Documentation

Appendix G

Table G-18
State of California

Priority	2017	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE ^{1*}		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
		18	Palo Verde Irrigation District ³ - Valley Lands (1)	PVID20733C _P2	1933	Ag	≤104,500 acres entitled	Unquantified	722,352,690 ,559	307,639,294 ,999	722,352,690 ,559	307,639,294 ,999	0	0

Table G-18
State of California

2017	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE ^{1,2}		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
			Metropolitan Water District of Southern California	Following and Forbearance Agreement		M&I		Dependent upon following call	Dependent upon following call	Dependent upon following call	Dependent upon following call			
			TOTAL				0	0	722,352,690	307,639,294	722,352,690	307,639,294	0	0
			PERCENT						100%			100%		0%
		27	One Acre PPR's	PPR's 45-80	1895-1928	M&I	36	22	36	22	36	22	0	0
		23	Sonny Gowan (Grannis)	PPR 32 & 7-07-30-W0158	1928	Ag	180	108	180	108	180	108	0	0
		3	Chagnon	PPR No. 41	1925	Ag	120	72	120	72	120	72	0	0
		24	Stephenson	PPR No. 30	1923	Ag	240	144	240	144	240	144	0	0
		8	Colorado River Sportsmen's League	PPR No. 36	1921	Ag	96	58	96	58	96	58	0	0
		1	Andrade	PPR No. 38	1921	M&I /Ag	66	47	66	47	66	47	0	0
			(AKA Andrade, Andrews, Bly, Brown, Carney, Daniel, Fairbanks, Glynn, Lindeman, Leon, Schroeder, Sherman, Perrett, Wetmore, Wetmore, Williams)											
		16	Milpitas	PPR No. 34	1918	Ag	108	65	108	65	108	65	0	0
		14	Lawrence	PPR No. 42	1915	Ag	120	72	120	72	120	72	0	0
		16	Milpitas	PPR No. 37	1914	Ag	69	41	69	41	69	41	0	0
		17	Morgan	PPR No. 33	1913	Ag	150	90	150	90	150	90	0	0
		4	Chemehuevi Indian Reservation	PPR No. 22	1907	Ind.	11,340	6,094	11,340	6,094	11,340	6,094	0	0
		9	Cooper	PPR No. 40	1905	Ag	60	36	60	36	60	36	0	0

¹ (PPR's)
² (PPR's)

Page: 1

[CRB1] Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project with the amount equal to the quantity, 327,000 minus the amount of water resulting from the Coachella Canal Lining Project made available to Metropolitan and San Diego County Water Authority in 2007.

Page: 1

[CRB2] Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project with the amount equal to the quantity, 327,000 minus the amount of water resulting from the Coachella Canal Lining Project made available to Metropolitan and San Diego County Water Authority in 2007, plus return flow credit.

Page: 1

[CRB3] Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project with the amount equal to 327,000 minus the amount of water resulting from the Coachella Canal Lining Project made available to Metropolitan and San Diego County Water Authority in 2007.

Page: 1

[CRB4] Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project with the amount equal to the quantity, 327,000 minus the amount of water resulting from the Coachella Canal Lining Project made available to Metropolitan and San Diego County Water Authority in 2007, plus return flow credit.

Page: 1

[CRB5] Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project with the amount equal to 327,000 minus the amount of water resulting from the Coachella Canal Lining Project made available to Metropolitan and San Diego County Water Authority in 2007.

Page: 1

[CRB6] Amount to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Page: 1

[CRB7] Amount in this column and the column to the left to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Page: 1

[CRB8] Amount in this column and the column to the left to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Page: 1

[CRB9] Amount in this column and the next two columns to the left to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Page: 1

[CRB10] Amount in this column and the column to the left to be inserted by the Bureau of Reclamation once the Secretary of the Interior has issued the determination of the amount of water conserved by the Coachella Canal Lining Project.

Page: 2

[CRB11] Value to be inserted in this column and the next four columns to the right once the Bureau of Reclamation has inserted values above.

Page: 5

[CRB12] Value to be inserted in this column, the next column to the right, and the third to the next column to the right once the Bureau of Reclamation has inserted values above.

From: CREDA [creda@qwest.net]
Sent: Wednesday, April 25, 2007 12:26 PM
To: LC strategies
Subject: Comments on DEIS

Attachments: Shortage Sharing DEIS Comments final 042507.doc
Please find attached CREDA's comments on the DEIS. Thank you for your consideration.
Leslie James
602-748-1344



CREDA

Colorado River Energy Distributors Association

April 25, 2007

ARIZONA

Arizona Municipal Power Users Association

Arizona Power Authority

Arizona Power Pooling Association

Irrigation and Electrical Districts Association

Navajo Tribal Utility Authority
(also New Mexico, Utah)

Salt River Project

COLORADO

Colorado Springs Utilities

Intermountain Rural Electric Association

Platte River Power Authority

Tri-State Generation & Transmission
Association, Inc.
(also Nebraska, Wyoming, New Mexico)

Yampa Valley Electric
Association, Inc.

NEVADA

Colorado River Commission
of Nevada

Silver State Power Association

NEW MEXICO

Farmington Electric Utility System

Los Alamos County

City of Truth or Consequences

UTAH

City of Provo

South Utah Valley Electric Service District

Utah Associated Municipal Power Systems

Utah Municipal Power Agency

WYOMING

Wyoming Municipal Power Agency

Leslie James

Executive Director

CREDA

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Phone: 602-748-1344

Fax: 602-748-1345

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Email: creda@qwest.net

Website: www.creda.org

Bureau of Reclamation

Attention: BCOO-1000

PO Box 61470

Boulder City, Nevada 89006-1470

VIA EMAIL: strategies@lc.usbr.gov

The Colorado River Energy Distributors Association (CREDA) appreciates the opportunity to provide comments on the Bureau of Reclamation's (Reclamation) draft environmental impact statement on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (DEIS) (72 Fed.Reg. 9026-9028, February 28, 2007). In the event there is an extension of the comment period, CREDA may supplement these comments at an appropriate later date. CREDA offers some general background and perspectives, followed by specific comments on the DEIS.

CREDA Background

CREDA's mission is "To preserve and enhance the availability, affordability, and value of Colorado River Storage Project facilities while promoting responsible stewardship of the Colorado River System." CREDA is a non-profit, Colorado corporation, also authorized to do business in Arizona, which was formed in 1978 as an association of non-profit entities who are long-term contractors for resources of the Colorado River Storage Project (CRSP). CREDA represents its members by working with Reclamation and the Western Area Power Administration (WAPA) regarding issues related to the CRSP. CREDA members serve over four million consumers in both Upper and Lower Colorado River basin states: Arizona, New Mexico, Nevada, Colorado, Utah and Wyoming. CREDA members include joint action agencies, state agencies, political subdivisions, tribal utility authorities, municipalities, rural electric cooperatives and irrigation and electrical districts. CRSP contractors pay all the power costs of the CRSP, which includes construction (with interest), operation, maintenance and replacements, transmission, environmental and approximately 95% of the irrigation costs. CREDA has also been a representative of contractors who purchase federal power on the Glen Canyon Dam Adaptive Management Work Group (AMWG) since its inception. CREDA and its members have a direct and specific interest in this process.

CRSP Background

In 1956, the CRSP was initiated to provide storage facilities for the Upper Basin states so that they could meet their obligations under the Colorado River Compact. The CRSP was authorized in the Colorado River Storage Project Act of 1956 (P.L. 485, 84th Cong., 70 Stat. 50), as a multi-purpose federal project. The Act defined project purposes as flood control, water storage for irrigation, municipal and industrial purposes and generation of electricity. The CRSP includes hydropower generation facilities at the Aspinall Unit (three dams with hydropower facilities), Flaming Gorge Dam and Glen Canyon Dam. Glen Canyon Dam is the largest hydropower generating feature of the CRSP, comprising approximately 70%

of the generation resource of the Salt Lake City Area Integrated Projects (SLCA/IP).

Glen Canyon Dam and Hydropower Considerations

Glen Canyon Dam, located near Page, Arizona, includes eight generators, with the nameplate generating capacity of 1,296,000 kW¹ and reservoir storage capacity of 27,000,000 acre feet (to elevation 3,700)². Lake Powell and Glen Canyon Dam are critical to the workings of the Law of the River, the Colorado River Compact and the Upper Colorado River Basin Compact, particularly in times of drought.

Reclamation currently operates Glen Canyon Dam to allow for hydrologic conditions, water rights, minimum stream flows, powerplant capacities, and reservoir elevation goals. “In addition to the water delivery purpose, another authorized purpose of Glen Canyon Dam is to generate hydroelectric power”.³ However, that purpose has been significantly constrained since the early 1990’s, with the initiation of interim operating criteria, and continuing with the October 1996 Record of Decision (ROD)⁴ which called for a Modified Low Fluctuating Flow (MLFF) operating regime, which ultimately resulted in the constraint of hydropower generation levels (maximum and minimum generation/flow and limits on up and down ramps) in favor of downstream resource concerns.

“Energy is the lifeblood of the U.S. economy. As our economy continues to grow, so too will the demand for abundant, affordable and reliable sources of energy.”⁵ Commenting on positive economic indicators, Federal Reserve Board Chairman Alan Greenspan cited the “chronic concern” that rising energy prices could threaten the nation’s economic recovery. Greenspan called the positive indicators “scant comfort” and pointed out that all projections point to an “uncertain future.”⁶ Over the past 25 years, electrical demand in the West rose at nearly twice the rate of the population growth (140% vs. 71%), with the population expected to increase another 54% by the year 2030.⁷ Now is not the time to further reduce or continue to unnecessarily restrict generating capacity at Glen Canyon Dam. Hydropower has been labeled the “most successful form of renewable energy.”⁸ It provides the only way to “store” electricity (in the form of water) for later use. Hydropower has many advantages over other power sources, including the ability to start quickly and adjust to rapid changes, including black start capability, during times of high energy demand and regional system disturbances. Since the power system in the West operates in an integrated manner, any time the load increases or decreases, a regulating generator must sense that change and immediately respond. Glen Canyon generation provides that capability. If Glen Canyon generation is further constrained by maximum and minimum flow and ramp rate releases, this flexibility and resource diversity is reduced. Reduced generation capability also requires the use of other less environmentally desirable resources, which can also raise the cost to consumers due to the need to replace the hydropower resource that is no longer available.

In 2005, CREDA wrote to then-Interior Secretary Gale Norton expressing a multitude of concerns regarding CRSP generation, drought and Basin Fund issues. A copy of that letter is attached hereto and CREDA requests Reclamation give consideration to the points contained in that communication in this DEIS process. ***Hydropower generation impacts, although addressed in detail in the DEIS, should be added as one of the “three important considerations” in this DEIS.***⁹

¹ <http://www.usbr.gov/power/data/sites/glencany/glencany.html>

² <http://www.usbr.gov/dataweb/dams/az10307.htm>

³ 71 Fed.Reg. 74558, December 12, 2006

⁴ http://www.usbr.gov/uc/rm/amp/pdfs/sp_appndxG_ROD.pdf

⁵ House Resources Committee Press Release, January 20, 2004.

⁶ Testimony of Chairman Alan Greenspan, *Federal Reserve Board's semiannual Monetary Policy Report to the Congress*, Before the Committee on Financial Services, U.S. House of Representatives, February 11, 2004.

⁷ Energy Information Administration, *Annual Energy Outlook 2006 with Projections to 2030*, <http://www.eia.doe.gov/oiaf/aeo/electricity.html> (Feb. 2006)

⁸ Report of the Energy Policy Development Council, May, 2001 at 5-19.

⁹ DEIS, p.2-1.

CREDA offers the following specific comments on the DEIS, organized by Section title, then by page number and line numbers where appropriate).

Purpose and Need

1) P.1-24, 1.4-8: This paragraph references Beach Habitat Building Flow (BHBF) releases, but in terms of the Purpose and Need of the DEIS, the relevancy is not clear. Based on clarifying discussion at the April 3 comment forum, we understand the reference to “triggering criteria” refers to the spill avoidance criteria, (Appendix A.5.6), NOT the sediment criteria used in the 2004 BHBF. By way of background, at the December 6, 2006 AMWG meeting, there was significant discussion and concern expressed about the lack of a science plan for a BHBF, and the need to consider more than just “hydrologic triggering criteria.” In addition, at the April 2, 2007 Technical Work Group (TWG) meeting, it became clear that there is not yet a BHBF science plan that has been vetted/approved by the TWG and the AMWG. CREDA recommends this paragraph be deleted, or in the alternative clarified that the only reference to BHBF specifically refers to the modeling assumption explained in Appendix A regarding spill avoidance.

Affected Environment

1) P.3-19, 1.15: Where reference is made to Glen Canyon Dam operations, it should be clear that operations are pursuant to the Law of the River (and not just reference to the Grand Canyon Protection Act of 1992).

2) P.3-19, 1.21-23: Reference later in the DEIS is made to Reclamation’s Long-Term Experimental Plan¹⁰; CREDA recommends these lines be revised to reflect “pending the outcome of the LTEP....”, as opposed to stating that “future daily and hourly releases are expected to continue to be made according to ... 1996 ... ROD...”.

3) P.3-48, 1.2-6: See also comment on Purpose and Need above regarding BHBF. CREDA recommends these lines be deleted.

4) P.3-95, 1.26: CREDA recommends this line be rewritten as follows: “Firm power contracts for resources of the Salt Lake City Area Integrated Projects (SLCA/IP), of which Glen Canyon is one of the resources, terminate in 2024.”...

5) P.3-99, 1.1-2: Clarification should be added to indicate that the Secretary is *authorized* (not mandated) to use CRSP power revenues to fund the Glen Canyon Adaptive Management Program,¹¹ hence, funding for this program does not fall within the same obligation level as the other listed programs.

6) P.3-99, 1.3-4: Clarification should be added to the reference to funding of the Endangered Fish Recovery Implementation Program. Annual base funding is provided solely by power revenues, it is not “cost shared.” In addition, no later than 2008, the Secretary is obligated to provide a report to Congress on the status of the use of power revenues for base funding, containing a recommendation regarding the need for continued base funding after fiscal year 2011. The utilization of power revenues for annual base funding shall cease after the fiscal year 2011, unless reauthorized by Congress; except that power revenues may be continued to be utilized to fund the operation and maintenance of capital projects and monitoring.”¹²

7) P.3-99, 1.14-16: The DEIS should be very clear in that “A change in the amount of available capacity or energy *WILL* affect “the revenue...to the Basin Fund, the rates charged to power *and water* customers, *and could impact repayment to the Treasury and the support of environmental programs funded by Basin Fund revenues.*”

Environmental Consequences

1) P.4-79, 1.27-29: Seasonal, daily and hourly flows will continue to be managed in accordance with the Law of the River, not the AMP.

2) P.4-241, 1.24-29: Certainly “total loss of electrical power generation” would have a substantial impact on the Basin Fund, power rates, repayment, and environmental program funding.

¹⁰ DEIS, section 5.1.28

¹¹ Grand Canyon Protection Act of 1992, section 1807

¹² P.L. 106-392, Section 3(d)(2)

However, it should be noted that these impacts don't occur ONLY with the complete loss of power generation. Although "the action alternatives generally have a minor impact on the *economic value* of electrical power generation", impacts associated with declining Basin Fund levels can be significant (see comment 7) above).

Alternatives/Recommendations

1) CREDA supports the consensus process being undertaken by the Basin States in the development of the Basin States (BS) alternative. We also understand the States are continuing to refine parameters of that alternative, and there is the potential that underlying assumptions may be adjusted, so we request the ability to comment further should that alternative change.

2) Consistent with the position CREDA has taken in the past regarding the use of Basin Fund power revenues for "non-power" programs (see attached), and consistent with the stepped levels of shortage contained in the BS alternative, CREDA recommends that Reclamation fund the "non-power" programs from appropriated dollars (*not* CRSP Basin Fund power revenues) in stepped increments tied to the BS shortage levels. For instance, if a shortage of 400kaf is declared, one-third of the "non-power" program annual costs would be funded through appropriations. If a shortage of 500kaf is declared, two-thirds of those annual costs would be funded through appropriations. If a shortage of 600kaf is declared, 100% of those annual costs would be funded through appropriations. This approach would not require legislation to implement.

3) From a public policy perspective, CREDA believes it inappropriate to assess power customers with a surcharge to "subsidize" water conservation projects as recommended in the Conservation Before Storage (CBS) alternative.

Thank you for the opportunity to comment on this DEIS.

Sincerely,

/s/ Leslie James

Leslie James
Executive Director

Cc: CREDA Board



CREDA

Colorado River Energy Distributors Association

April 25, 2005

ARIZONA

Arizona Municipal Power Users Association

Arizona Power Authority

Arizona Power Pooling Association

Irrigation and Electrical Districts Association

Navajo Tribal Utility Authority
(also New Mexico, Utah)

Salt River Project

COLORADO

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City of Provo

Strawberry Electric Service District

Utah Associated Municipal Power Systems

Utah Municipal Power Agency

WYOMING

Wyoming Municipal Power Agency

Leslie James

Executive Director

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Honorable Gale Norton, Secretary
Department of the Interior
VIA FAX

Dear Secretary Norton:

It is our understanding that on or about April 26, 2005, the seven Colorado River Basin States may submit to you comments regarding whether the runoff forecast warrants an adjustment to the release amount from Lake Powell for water year 2005. We are writing to alert you to another drought related issue that the Colorado River Energy Distributors Association (CREDA) believes requires your immediate attention.

CREDA is a non-profit Colorado corporation comprised of Colorado River Storage Project (CRSP) firm electric service customers in the states of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming. CREDA members are all non-profit entities, including joint action agencies, state agencies, political subdivisions, tribal utility authorities, municipalities, rural electric cooperatives and irrigation and electrical districts. CREDA members represent the majority of the CRSP customers and serve over four million consumers. CREDA initiated a dialogue over a year ago with the Bureau of Reclamation (Bureau), Western Area Power Administration (Western) and state water interests to consider drought impacts to power production and the Upper Colorado River Basin Fund (Basin Fund). CREDA participates in the Annual Operating Plan stakeholder process, the Glen Canyon Adaptive Management Work Group and the Upper Basin Endangered Fish Recovery Program, as well as the annual work program review process with Western and the Bureau.

Section 7 of the CRSP Act of 1956 requires that the "hydroelectric powerplants and transmission lines...be operated...so as to produce the greatest practicable amount of power and energy that can be sold at firm power and energy rates...". Section 5 of that Act established the Basin Fund and requires that all revenues collected in connection with the operation of the CRSP and participating projects be credited to that Fund.

Due to the on-going drought, the Basin Fund -- which finances repayment of the federal investment in power facilities and operation, maintenance and replacement (OM&R) activities at Glen Canyon Dam and the other power facilities of the CRSP -- is close to insolvency. Unless immediate action is taken, the Basin Fund will not be able to cover annual OM&R expenses, repay the capital costs of the power features of the CRSP or fund three important non-power programs now funded by power revenues: the Colorado River Salinity Control Program, the Glen Canyon Adaptive Management Program and the Endangered Fish Recovery Programs of the Upper Colorado River and San Juan Basins. The costs associated with these non-power programs are nearly \$20 million per year.

CREDA is deeply concerned the Basin Fund may not have sufficient revenues to cover the annual OM&R costs of the CRSP and to repay the capital costs of the project. We are also concerned that, if the Fund is depleted, the non-power programs currently funded with CRSP power revenues will go unfunded, to the detriment of many interests in the Upper Basin states.

CRSP customers have already borne the financial brunt of the ongoing drought. Just two years ago, a 17% rate increase was imposed. In addition, beginning October 1, 2004, energy reductions of 26% were imposed. And the comment and consultation process for yet another rate increase (24%) just closed last week, with the increase to take effect October 1, 2005. And yet, funding for these non-power programs has continued with no reduction, which has in part created a severe cash flow situation in the Basin Fund. Ongoing

rate increases could render the CRSP resources uneconomic, with customers having no choice but to pass those increased costs on to their consumers. For most of the CRSP customers, particularly the 55 Native American customers who became CRSP customers on October 1, 2004, this cost would be prohibitive and would defeat any potential benefit the federal resource is intended to provide.

CREDA urges the Department of the Interior to immediately seek appropriations for the non-power programs now financed with Basin Fund revenues. Further, CREDA believes that future use of revenues from the Basin Fund for non-power purposes should be limited to those situations where the use of power revenues is mandated by law, not when such use is merely permitted. For example, the Glen Canyon Adaptive Management Program authorizes, but does not mandate, the use of CRSP power revenues for program funding. Similarly, the Endangered Fish Recovery Program legislation requires the Bureau and the Western to seek appropriations in times of financial need. To the best of our knowledge, neither the Bureau nor Western has requested such appropriations, despite the congressional directive. Furthermore, these programs are for the benefit of an entire population, and should be funded as such, not by a restricted pool of recipients of federal hydropower.

CREDA also urges the Department to seek appropriations to fund OM &R at CRSP facilities when the Basin Fund is not adequate to cover these costs. Consideration could be given to the establishment of a "trigger", such as when the Bureau's 24-month hydrology indicates minimum power pool conditions at Lake Powell.

Our review of the legislative history of the CRSP indicates no one contemplated, or could have been reasonably expected to contemplate, this drought situation and the ensuing economic and financial impacts to CRSP power customers. This situation deserves immediate attention and assistance.

I am enclosing a copy of a Drought White Paper that CREDA prepared in March of this year, which provides additional information about these critical issues. Also enclosed is a resolution passed by the Colorado River Water Users Association in December 2004, supporting our request.

We would also like the opportunity to discuss these issues with you or your staff at your earliest convenience.

Sincerely,

/s/ Leslie James

Leslie James
Executive Director

Cc: CREDA Board
John Keys III
Michael Hacskeylo
AZ, CO, NV, NM, UT, WY Congressional Delegations

DROUGHT IN THE COLORADO RIVER BASIN

THE COLORADO RIVER STORAGE PROJECT (CRSP)

The CRSP was authorized in the Colorado River Storage Project Act of 1956 (P.L. 485, 84th Cong., 70 Stat. 50), as a multi-purpose federal project. The Act defined project purposes as flood control, water storage for irrigation, municipal and industrial purposes and the generation of electricity. Recreation and environmental mitigation and protection were added as project purposes later, but were not added to all of the features that make up the CRSP.

The CRSP power features include five dams and associated generators, substations, and transmission lines. Glen Canyon Dam is located near Page, Arizona and is by far the largest of the CRSP projects. Glen Canyon consists of eight generators for a total of about 1300 MW, which is more than 76% of the total CRSP generation. Flaming Gorge Dam is on the Green River, a major tributary of the Colorado River, and is located near Vernal, Utah. Flaming Gorge has three units producing about 132 MW of generation. The Aspinall Unit includes three dams and generating plants along the Gunnison River near Gunnison, Colorado. Blue Mesa is the first dam on the river and has two units producing about 97 MW. Morrow Point is the second dam in the series and consists of two generators producing a total of 146 MW. Crystal is the final dam and has one 32 MW generator.

COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION (CREDA)

CREDA's mission is "To preserve and enhance the availability, affordability, and value of Colorado River Storage Project facilities while promoting responsible stewardship of the Colorado River System." CREDA is a non-profit corporation, which was formed in 1978 as an association of entities who are long-term contractors for resources of the CRSP. CREDA works on behalf of its members with the Bureau of Reclamation (Bureau) and the Western Area Power Administration (WAPA) regarding issues related to the CRSP. CREDA members serve over 4 million consumers in six states: Arizona, New Mexico, Nevada, Colorado, Utah and Wyoming. CREDA members include joint action agencies, state agencies, political subdivisions, tribal utility authorities, municipalities, rural electric cooperatives and irrigation and electrical districts.

CRSP contractors pay all the power costs and approximately 95% of the irrigation costs of the CRSP, which includes construction (with interest), operation, maintenance and replacements, transmission, environmental and irrigation assistance. Beginning October 1, 2004, 55 tribes and pueblos became CRSP contractors under 20 year contracts.

DROUGHT IN THE COLORADO RIVER BASIN

The Colorado River Basin is in its sixth consecutive year of drought. In the 100 years of record keeping by the Bureau, there have never been six consecutive years of drought. Lake Powell is at its lowest level since 1969 at 3556 feet, which is 144 feet from full pool. It is approaching minimum power generation level. If this year's hydrology mirrors the past two years, this level could be reached as soon as February 2006. If minimum power generation level is reached, there will be little CRSP generation available to the CRSP contractors. This will have significant economic consequences for the CRSP contractors and the customers they serve, as well as for a number of other non-power programs that are funded with CRSP power revenues.

THE UPPER COLORADO BASIN FUND AND DROUGHT IMPACTS

The Basin Fund is a revolving fund maintained by CRSP power revenues. The Basin Fund is the source of CRSP project repayment, including: repayment of the capital investment with interest, operation, maintenance and replacement expense, 95% of the irrigation investment, Bureau and WAPA employee salaries (about \$80 million annually). In addition, the Fund has been the source of funding for other "non-power" programs:

*Approximately \$18 million for the Colorado River Salinity Control Program;
*\$179,577,774 for the Glen Canyon Adaptive Management Program;
*\$40,399,329 for the Upper Colorado River Basin and San Juan Basin Endangered Fish Recovery Programs.

The programs listed above total about \$20 million per year.

In addition, due to reduced generation levels from the CRSP resource, WAPA has had to purchase power on the open market to meet its contractual requirements. This year alone, they have spent \$50.5 million from the Upper Colorado Basin Fund for replacement power. In order to maintain a sufficient Basin Fund level, in October 2003, WAPA reduced energy deliveries to its customers by 26%. Each customer has had to “make up” the shortfall on its own. WAPA has also begun an approximate 24% rate increase process.

CREDA has worked with WAPA to develop a program as part of the rate process that would allow some customers to procure their own supplemental power instead of through WAPA. This would shift some of the Basin Fund risk from WAPA to the customers by allowing each customer to decide how the shortfall in CRSP generation should be made up.

Since 1998, the Basin Fund has been at risk of deficiency due to reduced generation levels, market price conditions and expenditures for environmental testing. CRSP customers have experienced increased rates and reduced energy deliveries. In the event generation ceases at Glen Canyon Dam, the CRSP rate would have to increase fourfold, which would also be approximately double the cost of energy that could be procured on the open market.

CREDA members, all non-profit entities, have no option other than to pass those costs on to their consumers. For most of the CRSP customers, particularly the 55 new Native American customers, this cost would be prohibitive, and would defeat any potential benefit the CRSP resource may provide to those customers.

NON-POWER RELATED PROGRAMS SHOULD BE FUNDED BY APPROPRIATIONS, NOT CRSP CUSTOMERS

CREDA is concerned that, when generation is ceased or close to being ceased at Glen Canyon Dam, an effort will be made to require CRSP power users to fund the non-power programs described above. This would, in effect, be a subsidy from the electric consumers in six Western states to all the parties that benefit from the Salinity Control, Adaptive Management and Endangered Species Recovery programs on the river.

Instead, the non-power programs should seek appropriations from Congress to fund activities when the Basin Fund is depleted. Further, the Basin Fund should be limited to “the basics”, namely, those costs that are mandated by law to be repaid by the Fund. The Glen Canyon Adaptive Management Program authorizes, but does not mandate, the use of CRSP power revenues for program funding. The Endangered Fish Recovery Programs legislation requires the Bureau and WAPA to seek appropriations in times of financial need.

From a public policy standpoint, these programs are intended to benefit the environment, which is in the public interest, and therefore should be funded by appropriations. Providing appropriations for these programs would assist in maintaining the Basin Fund’s solvency.

APPROPRIATIONS RECOMMENDATIONS

CREDA suggests that Congress immediately:

Provide funding for Glen Canyon Adaptive Management Program costs by appropriations to Section 8, CRSP Act. (approx. \$9 M annually) – see GCPA Sec. 1807; CRSPA Sec. 5;

Provide funding for the Upper Colorado River and San Juan Endangered Fish Recovery Programs by appropriations to Section 8, CRSP Act (approx. \$6M annually) – see (3)(d)(1) of S. 2339; and

Provide funding for the Colorado Basin Salinity Control Program costs assigned to CRSP power revenues (approx. \$2 M annually)

Further, CREDA suggests that when the Bureau's 24-month hydrologic study indicates there will be no power generation at Glen Canyon Dam OR if the Secretary of the Interior implements an annual release amount of less than 8.23MAF, Congress provide appropriations, to be repaid by CRSP at the end of the repayment period, without interest, to fund the operation, maintenance, and replacement expenses of the Bureau and WAPA assigned to the Colorado River Storage Project (approximately \$80 million annually). Congress should also require a report to Congress if the hydrologic trigger is met. Funding would be discontinued when Lake Powell's level reaches the level agreed to by the states for 602(A) storage.

Adopted by CRWUA December 17, 2004

Resolution No. 2005-19

DROUGHT IMPACTS ON THE COLORADO RIVER STORAGE PROJECT

The United States Bureau of Reclamation (USBR) and the Western Area Power Administration (Western) should implement cost-cutting measures and strategies to improve the status of the Upper Colorado River Basin Fund and stabilize the Colorado River Storage Project (CRSP) power rate, and to work in partnership with the CRSP customers to develop an operational, financial, and rate-setting strategy that addresses the drought situation, creates a sustainable cash flow and maintains a viable power rate.

The Colorado River Water Users Association encourages the passage of federal legislation that would make available non-reimbursable appropriations to the USBR and Western; to ensure ongoing funding of CRSP operations and other required annual funding obligations.

Position Statement

Drought Impacts on the Colorado River Storage Project

(Resolution No. 2005-19)

The federal CRSP hydropower and delivery systems were authorized by Congress to provide a wide range of significant benefits to millions of citizens in the West, including:

- Flood Control
- Irrigation
- Municipal water supply
- Interstate and international compact water deliveries
- Lake and stream recreation
- Blue ribbon trout fisheries
- River regulation
- Economic development
- Fish and wildlife propagation and mitigation
- Power generation and transmission

The Colorado River Basin is entering its sixth year of drought conditions. Lake Powell water storage is at the lowest since it filled in 1980, and is approaching the level where power generation will cease.

Funding for repayment of federal investment in the CRSP storage features and participating irrigation projects, and the operation and maintenance of the CRSP facilities and staff of the U.S. Bureau of Reclamation (USBR) and the Western Area Power Administration (Western) is provided through power revenues maintained in the Upper Colorado River Basin Fund.

A portion of the costs associated with the Colorado River Salinity Control program, the Glen Canyon Adaptive Management Program and the Upper Basin Endangered Fish Recovery Programs are funded through the Upper Colorado River Basin Fund.

A combination of reduced generation from the CRSP, costs associated with environmental programs and experiments, and wholesale power market conditions have resulted in unstable, non-sustainable cash flow conditions in the Upper Colorado River Basin Fund. The effective CRSP power rate is increasing while resource deliveries are declining.

As hydrologic conditions improve after the current severe ongoing drought that has plagued the Colorado River Basin and most of the western United States for the past five years, the Bureau of Reclamation should do its utmost to build reservoir conservation storage back to pre-drought conditions in each of the reservoirs which it manages.



COLORADO RIVER WATER CONSERVATION DISTRICT

Protecting Western Colorado Water Since 1937

April 30, 2007

Jayne Harkins, Regional Director
Lower Colorado Region, Bureau of Reclamation
Attention: BCOO-1000
P.O. Box 61470
Boulder City, NV 89906-1470

Re: Comments on the Draft EIS for Colorado Interim Guidelines for Lower Basin Shortage and Coordinated Operations for Lake Powell and Lake Mead

Dear Director Harkins:

The Colorado River Water Conservation District (Colorado River District) is pleased to submit comments on the Draft EIS for Colorado River Interim Guidelines for Lower Basin Shortage and Coordinated Operations for Lake Powell and Lake Mead (Shortage Criteria DEIS).

The Colorado River District is one of four water conservation districts chartered by the Colorado General Assembly. The Colorado River District covers all of the Colorado River Basin within Colorado north of the San Juan Mountains.

The Colorado River District through a coalition with other Colorado River water agencies within Colorado has participated with Colorado state officials in the discussions and negotiations among the seven Colorado River Basin States. Therefore, the Colorado River District generally endorses and supports the comments of the Colorado Water Conservation Board (CWCB), dated April 30, 2007 and the collective comments of the seven Basin States, dated April 30, 2007.

The Colorado River District believes that it is important that the Secretary of the Interior select a preferred alternative and ultimately sign a record of decision that implements the major elements of the seven states proposal. We do not believe the seven states proposal is a take-it-or-leave-it proposal. Therefore, it would be appropriate for the Secretary to incorporate elements of the other action alternatives into the preferred alternative, as needed.

Recognizing that the primary purpose of the Draft EIS is to disclose the environmental impacts of the proposed action and reasonable alternatives to the action, to the general public and decision making agencies, the Colorado River District has the following comments and suggestions that we believe could make the final EIS a more effective “disclosure” document:

1. The Draft EIS is very comprehensive with lengthy chapters and a number of appendices. Therefore, the Executive Summary is a critical document. Where possible, the DEIS Executive Summary could be made more user friendly. For example, on page ES-6, the “No Action Alternative” paragraph discusses the limitations and uncertainties of defining the no-action alternative, but the paragraph never really gives the reader an understandable description of no-action.

The treatment of hydrology primarily uses probabilities. The following statement appears on page ES-7: “Due to the uncertainty with regard to future inflows into the system, multiple simulations were performed in order to quantify the uncertainties of future conditions and as such, the modeling results are typically expressed in probabilistic terms.” Yet, the ES provides no assistance or guidance to the reader in how to utilize the results that are expressed with probabilities.

2. For the primary treatment of hydrology as displayed in the Executive Summary, chapter 3, “Existing Conditions” and chapter 4, “Environmental Consequences,” the various graphs and conclusions are based on the 1906-2004 period. Reclamation needs to make it very clear to the reader that the fundamental assumption is that the key statistics that describe the hydrology, mean, standard deviation and skew will continue into the future (no change from the 1906-2004 period).

Appendix N, “Analysis of Hydrologic Variability Sensitivity” is an excellent approach to introduce alternative methods for hydrology reviews. Reclamation is to be commended for taking this step. However, in the Executive Summary, there is no reference to Appendix N. Without getting into the complications, Reclamation, as a minimum, could describe for the reader, the information provided in Appendix N and why it might be relevant to the basin states, NGOs, federal agencies and the Secretary of the Interior in the decision making process.

For example, the results of the Direct Paleo analysis in Appendix N suggest that based on a longer or different period of record than 1906-2004, the probability of shortages and the magnitude of shortages may be slightly higher than what is suggested in the Draft EIS (chapter 4).

Because Appendix N is a rich source of information for decisions makers, the Executive Summary should contain a few paragraphs on its implications for future decisions.

3. The probabilistic treatment of the hydrology data fails the decision maker in one potentially important, if not critical factor. The numerous graphs throughout the Draft EIS generally show the probability of an event occurring versus time (under the different alternatives). For example, figure 4.3-25 "Lake Mead End-of-December Elevations" is a relatively important graph with considerable information of importance to decision makers. This graph compares Lake Mead levels under the different alternatives at the 10%, 50% and 90% levels. What is missing is the "temporal" factor. The hydrologic record for the Colorado River in both the 1906-2004 period and the longer paleo record shows that there are 10-40 year periods of above normal flows followed by 10-40 year periods of below normal flows. During the wet periods, reservoir levels are generally full and shortages rare (or nonexistent) for extended periods of time. In contrast, during the drier periods, except for occasional bump years, mainstem reservoir levels remain low and shortages are routine. This temporal data is best displayed by using example single traces. We have attached an example of this approach. Based on information Reclamation has provided, the attached graphs show Lake Mead and Lake Powell levels, release values, and calculated shortages for two sample traces, 37 and 43. For a decision maker, the consequences of shortages occurring randomly with a 1 in 3 probability over a 60 year period is very different than having a 20 year period with consecutive shortages within that 60 year period (with no shortages in the other 40 years!).
4. Within the Draft EIS there is no real discussion of the potential impacts of climate change. As Reclamation is aware, the National Research Council of the National Academies of Science recently published a report on Colorado River Basin water management. This report concludes that "the preponderance of the evidence" that suggest conditions in the Colorado River Basin will be characterized by higher temperatures and lower stream flows.

The Colorado River District recognizes that there are no readily available (and generally accepted) data sets for future flows that could be used to generate alternative hydrology runs. However, the Executive Summary should certainly include a qualitative discussion of the available climate science (and its limitations) and what it MAY mean for future operations of Lake Mead and Lake Powell. It is also suggested that Reclamation obtain inflows from a source such as the Lettenmaier 2006 study and include it within Appendix N of the final EIS.

Jane Harkins, Regional Director
Lower Colorado Region, Bureau of Reclamation
River District Comments on the Shortage Criteria DEIS
April 30, 2007
Page 4

Sincerely,

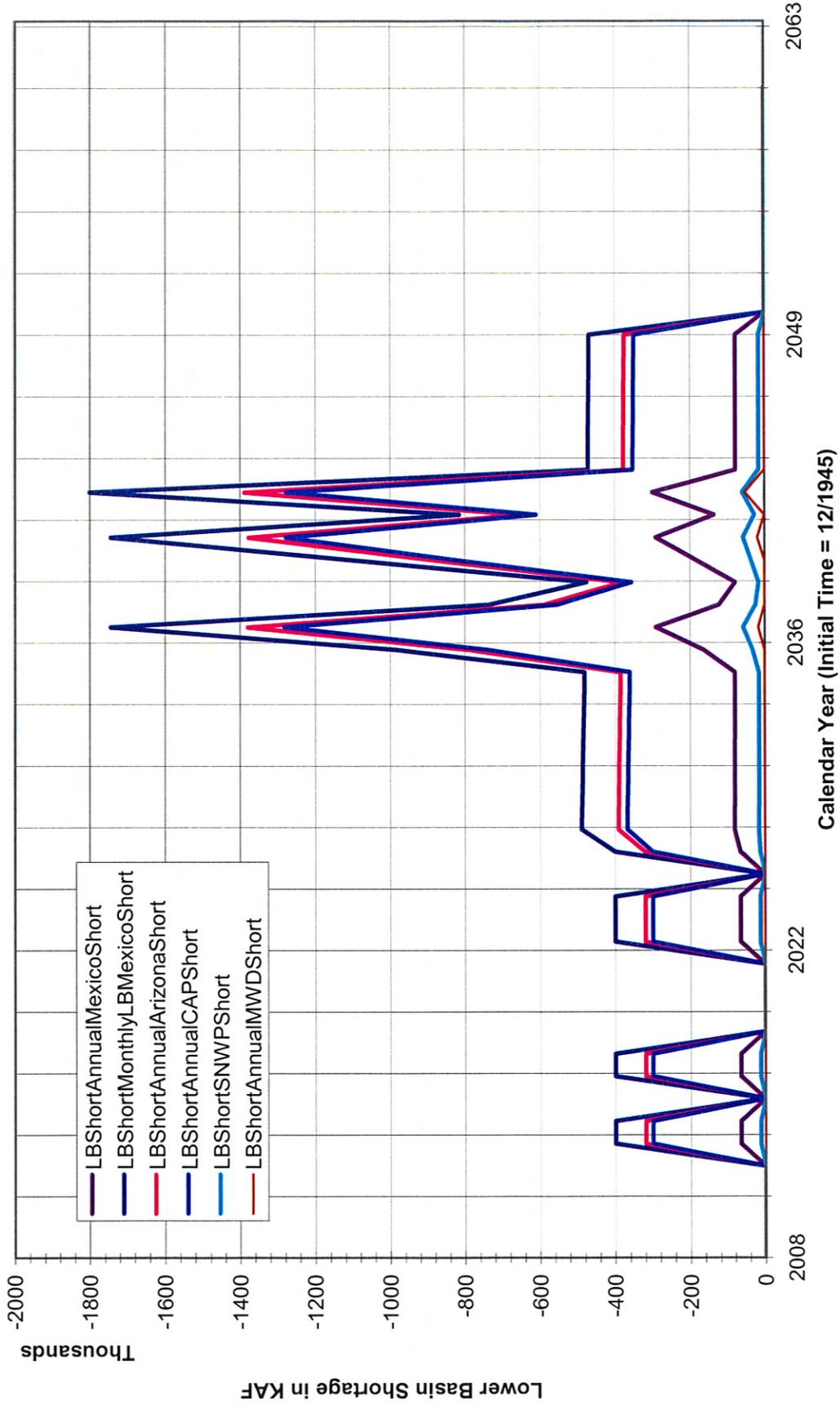


Eric Kuhn
General Manager

REK/ldp
Attachments
c: (w/ attachments)
James Lochhead, Esq.
Scott Balcomb, Esq.
Randy Seaholm
Don Ostler

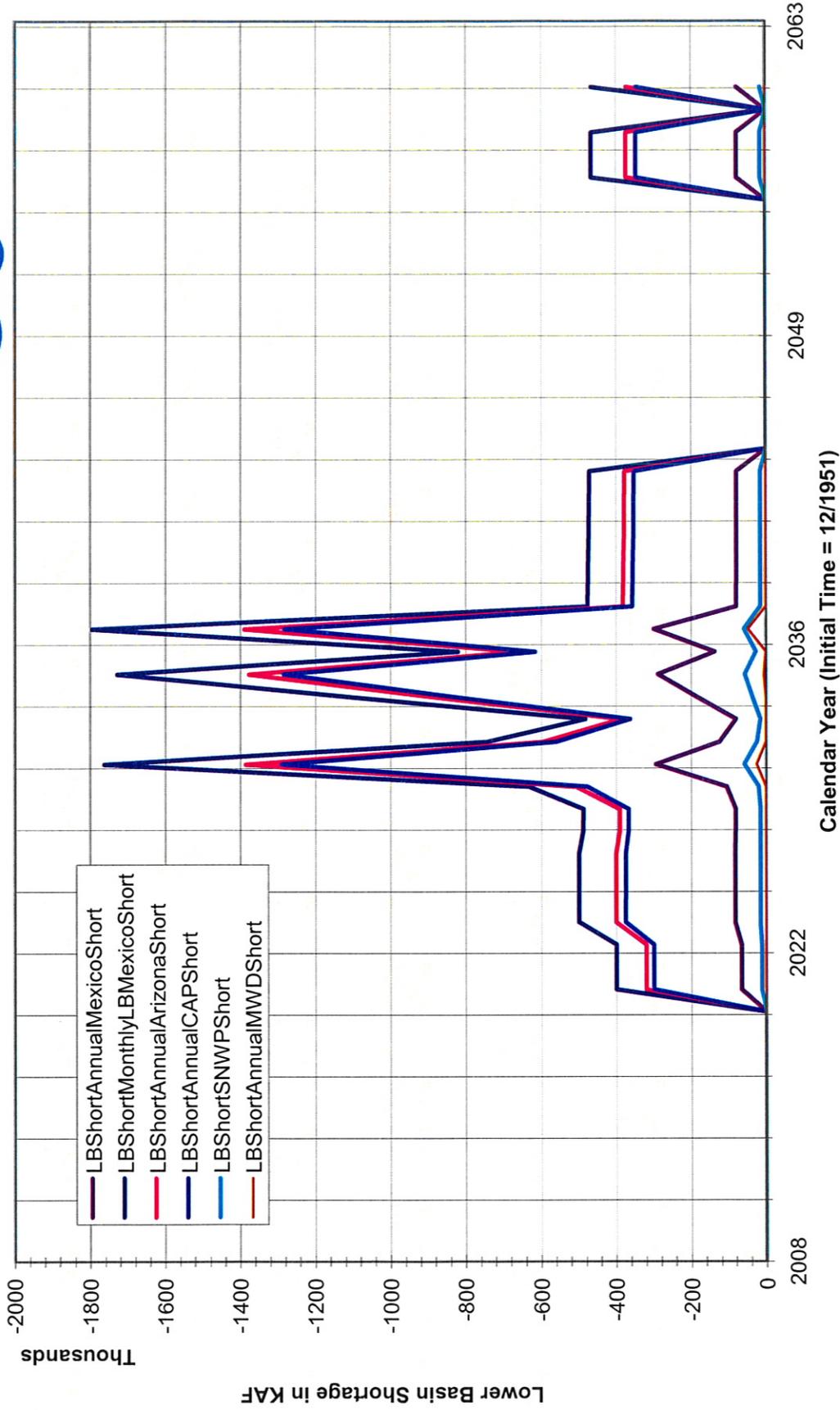
Lower Basin Shortage (AZ, CAP, SNWP, MWD, Mexico) - Run37

Basin States Alternative

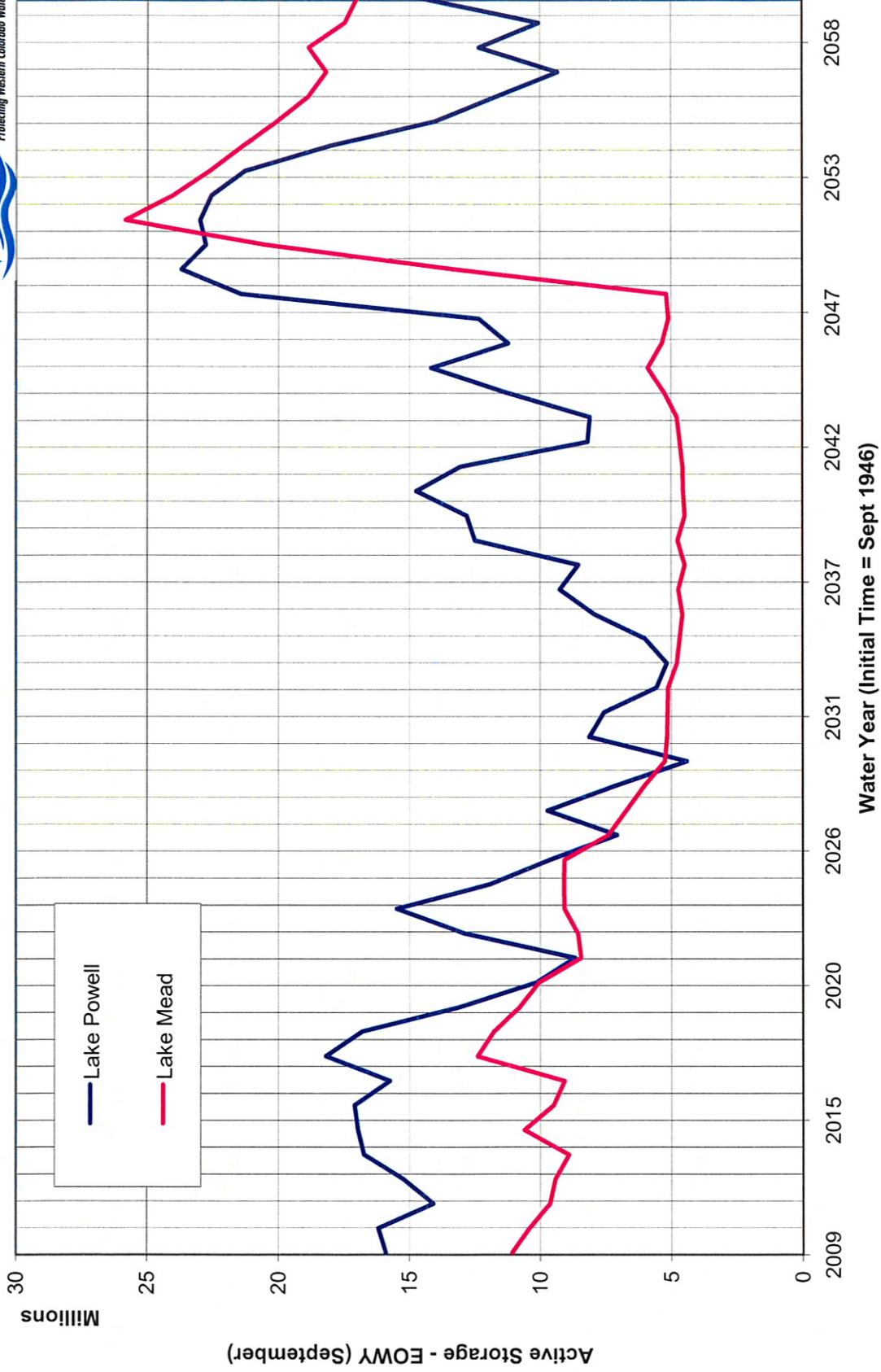


Lower Basin Shortage (AZ, CAP, SNWP, MWD, Mexico) - Run43

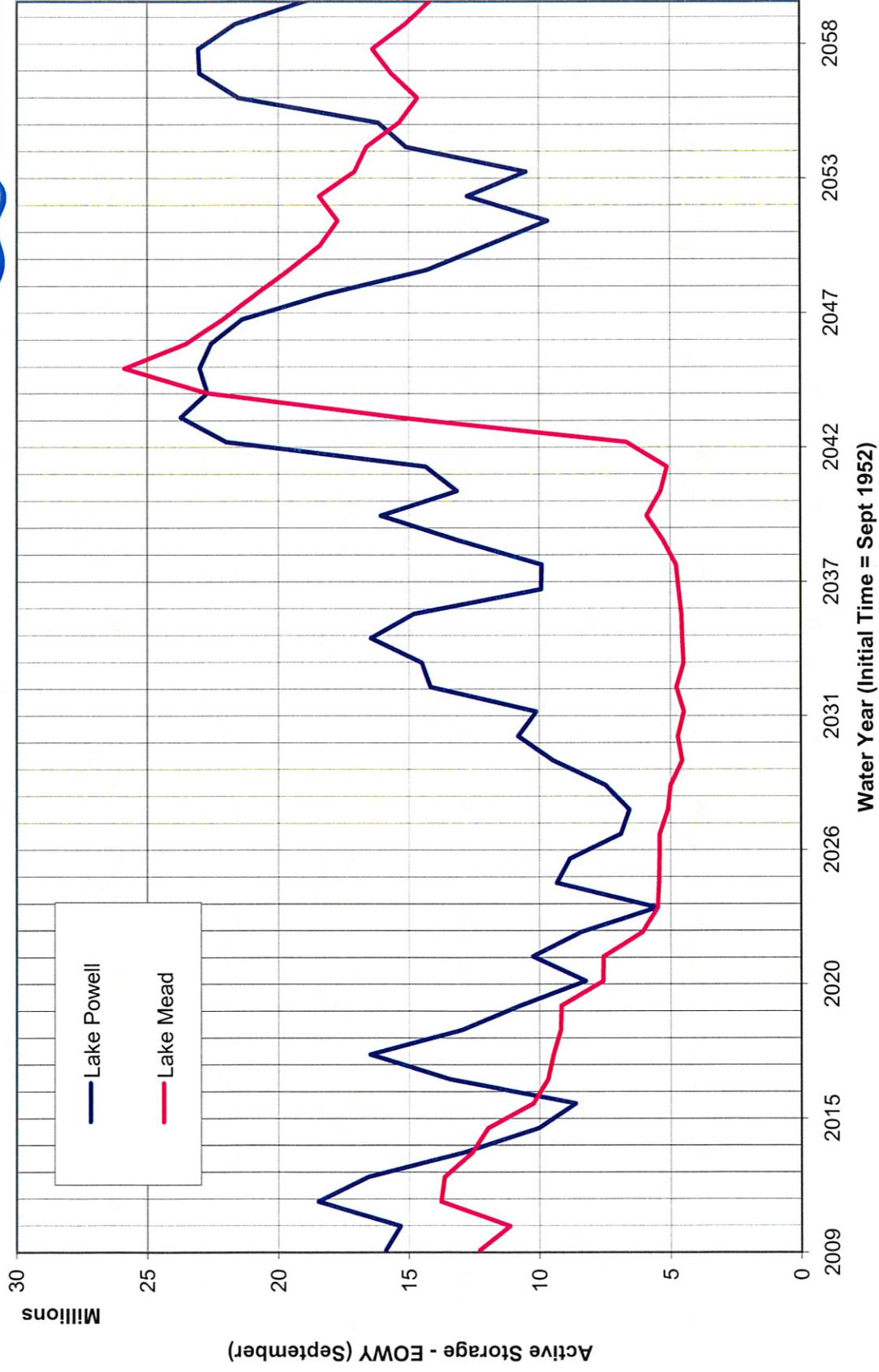
Basin States Alternative



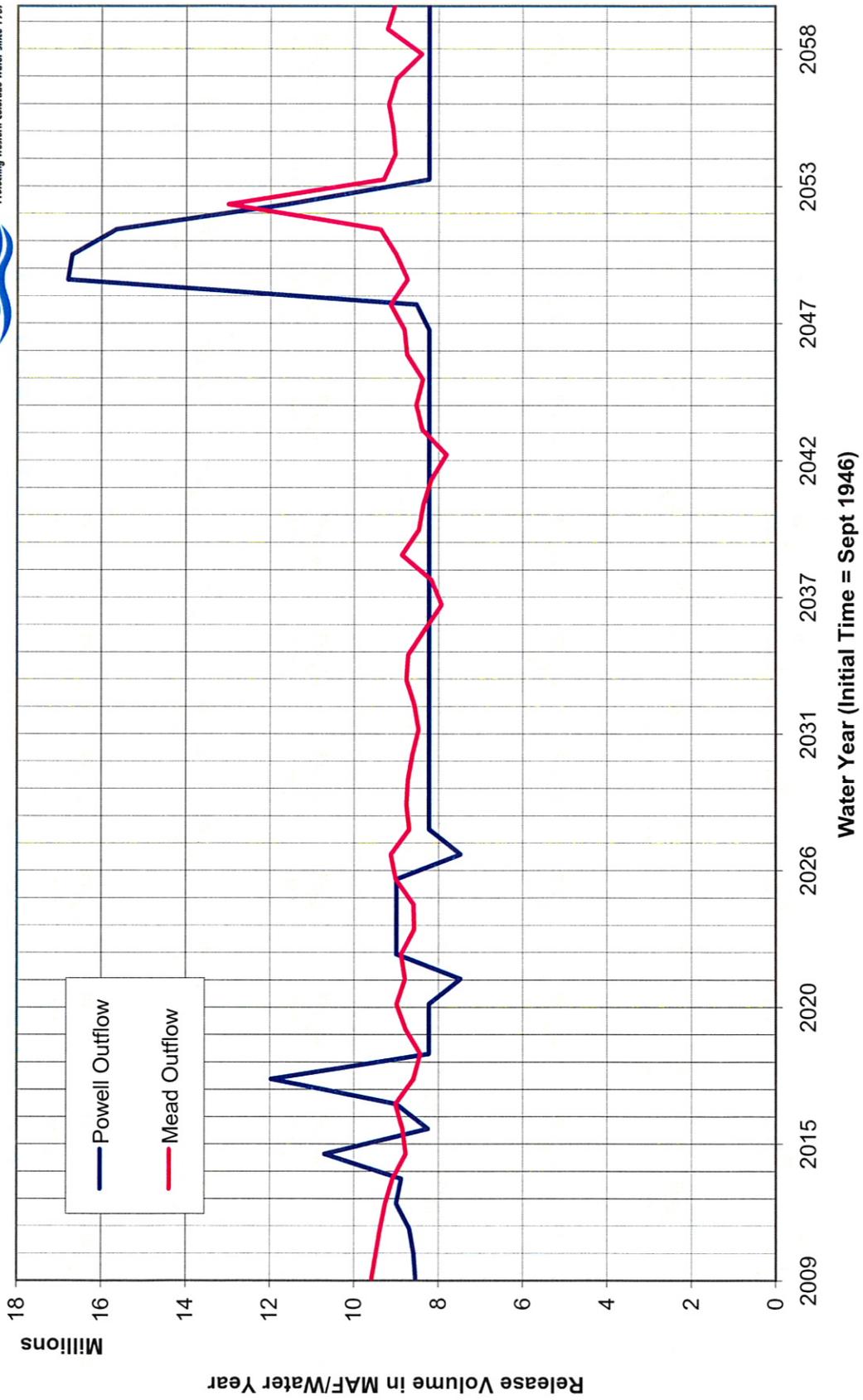
**CRSS Results (Shortage DEIS) Comparison of STORAGE
Lakes Powell and Mead - Trace 37 - Basin States Alternative**



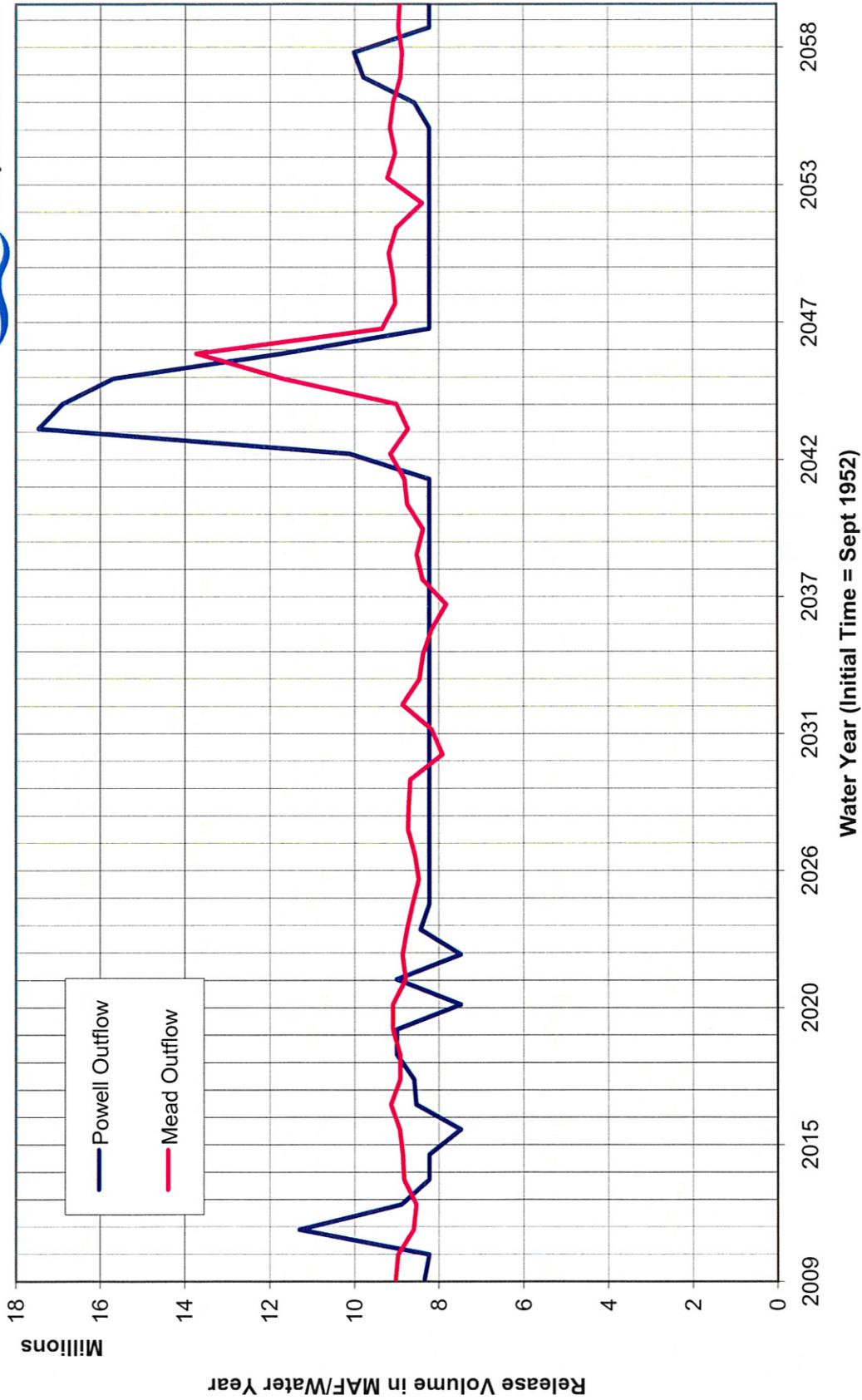
**CRSS Results (Shortage DEIS) Comparison of STORAGE
Lakes Powell and Mead - Trace 43 - Basin States Alternative**



**CRSS Results (Shortage DEIS) Comparison of RELEASES
Lakes Powell and Mead - Trace 37 - Basin States Alternative**



**CRSS Results (Shortage DEIS) Comparison of RELEASES
Lakes Powell and Mead - Trace 43 - Basin States Alternative**



STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

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Denver, Colorado 80203
Phone: (303) 866-3441
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April 30, 2007

Honorable Dirk Kempthorne, Secretary
Department of the Interior
1849 C. Street, NW
Washington, D.C. 20240

Bill Ritter, Jr.
Governor

Harris D. Sherman
Executive Director

Rod Kuharich
CWCB Director

Dan McAuliffe
Deputy Director

Re: State of Colorado Comments on *Draft Environmental Impact Statement Regarding Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions.*

Dear Secretary Kempthorne:

The State of Colorado thanks you for the opportunity to comment on the *Draft Environmental Impact Statement for Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions* (the "DEIS") released by the Bureau of Reclamation (the "Bureau") on February 28, 2007.¹

The importance to Colorado of its namesake river cannot be overstated. The Colorado River and its tributaries supply over a third of Colorado's water needs and provide water to nearly 60 percent of the States' population. Originating as snowfall high in the Colorado mountains, Colorado River water is put to agricultural use on Colorado's eastern plains, central valleys, and western mesas; municipal use in cities from Fort Collins to Denver to Colorado Springs to Durango to Grand Junction; and industrial use at manufacturing facilities, mines, ski resorts, and oil and gas production facilities across the State. Moreover, because no major rivers flow into Colorado, Colorado must satisfy all its water demands from sources within the State. The Colorado River is simply an irreplaceable resource for Colorado. The State's past, present, and future are directly tied to the Colorado River.

The significance of the Colorado River to Colorado is reflected in the Colorado River and Upper Colorado River Basin Compacts, which grant Colorado the largest allocation of Colorado River System water of all the Upper Division States and the second largest allocation of Colorado River Water of all the Basin States. Due to its location at the headwaters of the Colorado River, Colorado must depend upon this allocation not only to meet its present needs, but also to provide for its future development. Indeed, it was precisely for the purpose of preserving its right to

¹ Publication of the Draft EIS, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (hereinafter "DEIS") was announced at 72 Fed. Reg. 9026 (February 28, 2007).

future development of Colorado River water that Colorado entered into the Colorado River and Upper Colorado River Basin Compacts.

Given this relationship with the Colorado River, Colorado clearly has a substantial interest in the efficient management and wise administration of the Colorado River System and System reservoirs. The Colorado River System and its reservoirs must be administered and managed in a manner that meets the needs of the Colorado River basin states without jeopardizing Colorado's significant, legally protected rights to the waters of the Colorado River, or compromising its ability to serve the present uses and future needs of Colorado citizens. It is in the interest of protecting the rights and needs of its citizens that Colorado submits these Comments.

The State of Colorado's Comments consist of two parts. First, Colorado joins in the Basin States' Combined Comments, Recommendations, and Proposed Guidelines (the "Basin States' Comments"), submitted under separate cover. Colorado strongly believes that the Basin States' Alternative, as described in the DEIS and clarified and implemented by the Basin States' Comments, sets forth the appropriate mechanism for interim management of the Colorado River System through 2025. As is more fully explained in the Basin States' Comments, the Basin States' Alternative best addresses the issues raised by the proposed federal action (the "Action"), as described in the DEIS and the Bureau's March 2006 Scoping Summary Report. Accordingly, Colorado joins the Basin States in requesting that you adopt the Basin States' Alternative, as implemented through the Basin States' Proposed Guidelines, as the preferred alternative in the Final Environmental Impact Statement and Record of Decision.

Second, the State of Colorado submits the following general Comments to the DEIS to address concerns specific to Colorado. These individual State Comments are not intended to suggest any disagreement with the Basin States' Comments, or to call into question Colorado's support for the Basin States' Alternative. Rather, they are intended to identify and suggest means of addressing issues of unique interest to Colorado.

These Comments are as follows:

- **Affected Geographic Region.** The DEIS defines the geographic region affected by the Action as Lake Powell and the River below Lake Powell. The DEIS analyzes the effects of the Action only within this geographic region.² However, decisions made regarding management of Lakes Mead and Powell also could potentially affect the geographic region upstream of Lake Powell after 2025. Decreased or increased storage in Lake Powell could affect storage levels in other Upper Basin reservoirs, and thus increase or decrease the risk that Upper Division States would have to curtail their uses of Colorado River water in order to satisfy the Upper Basin's obligations under Article III(d) of the Colorado River Compact. In addition, curtailment in the Upper Division or shortages in the Lower Division could potentially impose cumulative impacts on other geographic regions.

Notwithstanding these facts, because Colorado believes it unlikely that Upper Division curtailment will be necessary during the interim period of 2008 through 2025, Colorado does not, at this time, object to the limited description of the affected geographic region set forth in the DEIS; provided, however, that said description is understood to be applicable only to

² For example, the DEIS describes the affected geographic region as Lake Powell and the Lower Basin at pages including, but not necessarily limited to: p. 1-7, lines 5-7; p. 3-3, lines 1-24; p. 4-81, lines 37-39.

the interim period. Beginning in 2026, the potential risk of Upper Division curtailment will increase substantially due to increased development in the Upper Basin. Accordingly, Colorado believes the description in the DEIS of the geographic region affected by the Action will be invalid by the expiration of the interim period, and that it will be necessary at that time to reexamine management of Lakes Powell and Lakes Mead.

- **Expiration of Guidelines.** Expiration of the Guidelines in 2025 is critical toward Colorado's support of any preferred alternative. Continued operation of Lake Powell in a manner consistent with the proposed Action after 2025 may prove highly disadvantageous to Colorado. Moreover, as noted above, the assumptions upon which any proposed Action is chosen will no longer be valid after 2025.

The DEIS correctly recognizes that the Guidelines implementing the Action will be interim in nature, and will remain in effect for determinations to be made through 2025 regarding water supply and reservoir operating decisions through 2026. However, the DEIS does not clearly state what default operating criteria will be relied upon after that date.³ As stated in the Basin States' Comments, the DEIS should explain that at the conclusion of the effective period of the Guidelines, the modeled operating criteria are assumed to revert to the operating criteria used to model baseline conditions in the final EIS for the Interim Surplus Guidelines dated December 15, 2000 (i.e., modeling assumptions are based upon a 70R strategy for the period commencing January 1, 2026 (for preparation of the 2027 AOP)). These operating criteria would utilize the present 602(a) algorithm for calculating 602(a) storage requirements for releases from Lake Powell. As is more fully explained below, it is extremely important to Colorado that the Bureau continue to operate Lake Powell in a manner that serves the interests of the Upper Division States, and that sufficient storage be maintained in Lake Powell to protect Colorado's and the other Upper Division States' current and projected future uses. Accordingly, Colorado would object to any operating criteria that would alter any of the assumptions in the present 602(a) algorithm, and specifically objects to the proposed review of the 602(a) algorithm proposed in Arizona's DEIS comments and scoping comments.

- **Consultation with Basin States in 2020.** As mentioned above, Colorado believes it important that the DEIS identify default criteria for operating Lakes Mead and Powell after 2025. However, because of the importance of the management of Lakes Mead and Powell to the overall operation of the Colorado River System, Colorado believes it preferable for the Bureau to identify and develop new Guidelines for the management of Lakes Mead and Powell and the administration of the Colorado River System before the interim Guidelines developed through this process have expired. To ensure such action is taken, Colorado recommends that the Final Environmental Impact Statement and Record of Decision require the Bureau to initiate future consultation with the Basin States and other interested parties no later than 2020 to identify and implement appropriate management mechanisms for the Colorado River System following expiration of the proposed Action and implementing Guidelines. The Basin States Proposed Guidelines includes language that would require the Bureau to initiate such consultation.

³ For example, the DEIS omits identification of what will happen after expiration of the proposed interim action in 2025 at pages, including but necessarily not limited to pp. ES-2, lines 6-13 and 1-1, lines 21-26.

- **Coordinated Operations of Lakes Powell and Mead.** Several of the proposed alternatives in the DEIS, including the Basin States Alternative, call for a more coordinated operation of Lakes Powell and Mead in hopes of more efficiently managing the Colorado River System during the interim period. Under this coordinated operation, releases from Lake Powell may vary based upon levels in both Lake Powell and Lake Mead, in the interest of limiting shortages in the Lower Division, as well as reducing the risks of Upper Division curtailment. Colorado has agreed to this approach toward reservoir management during the interim period as described in the Basin States' Alternative and implemented through the Basin States' Proposed Guidelines.

However, in adopting a preferred alternative for managing Lower Basin shortages as a result of this or any future process, the Department of Interior and Bureau of Reclamation must not lose sight of the primary purpose for which Lake Powell was originally constructed: "to initiate the comprehensive development of the water resources of the Upper Colorado River Basin . . . making it possible for the States of the Upper Basin to utilize, consistently with provisions of the Colorado River Compact, the apportionment made to and among them in the Colorado River Compact and the Upper Colorado River Compact, respectively. . . ." Colorado River Storage Project Act of 1956 (43 U.S.C. § 620). Accordingly, pursuant to the Colorado River Storage Project Act, any system for coordinated operations of Lakes Mead and Powell must not subordinate the need for Upper Basin storage to the interest of limiting Lower Division shortages.

The Basin States Alternative maintains consistency with the Colorado River Storage Project Act by imposing a minimum 602(a) storage level in Lake Powell of 14.85 million acre-feet, which amount is then adjusted upwards annually. Colorado would strongly object to any proposed alternative that does not similarly protect Upper Basin storage. Specifically, Colorado would strongly object to any action, such as the proposed "Water Supply Alternative," which violates the statutorily mandated requirement that sufficient storage be maintained in Lake Powell to protect future Upper Division development, or that otherwise ignores, alters or amends the current mechanisms used to determine sufficient storage in Lake Powell.

- **Mexican Treaty Shortage Issues.** Colorado agrees with the other Basin States that the issue of how and under what circumstances the United States will reduce the water allotted to Mexico under Article 10(a) of the Mexican Water Treaty of 1944 must be addressed in order for the Bureau to develop a comprehensive program for administering the Colorado River System and managing the Colorado River System reservoirs. Colorado believes that the United States should reduce the quantity of water allotted to Mexico in any year the Secretary reduces the water available for consumptive use pursuant to Art. II(B)(3) of the Consolidated Decree.

However, Article III(B)(3) reductions are not the exclusive circumstances determining whether the United States should reduce the amount of water allotted to Mexico under the 1944 Treaty. Other conditions may also arise that are reflective of extraordinary drought in the Colorado River System under Article 10 of the Treaty. Resolution of the timing and extent of reductions in the water allotted to Mexico has the potential to affect interests in both the Upper and Lower Colorado River Basin.

The DEIS states that this issue will be resolved through discussions with Mexico by the International Boundary Waters Commission in consultation with the Department of State.⁴ Because of the importance of this issue to both the Upper and Lower Division States, Colorado believes that all the Basin States must be consulted on and included in these discussions.

- **Definition of Colorado River System.** The Colorado River Compact provides a very specific definition of the Colorado River System. The DEIS appears to be somewhat inconsistent in its use and definition of this term. Specifically, the DEIS sometimes confuses the concepts of the Colorado River System, Colorado River System water, and the Colorado River Mainstem.⁵ Colorado requests that the Bureau attempt to avoid such inconsistencies in its Final Environmental Impact Statement and Record of Decision.
- **Definition of Consumptive Use.** In summarizing the apportionments of the use of Colorado River water to the Basin States, the DEIS states that “[t]he apportionments of the Basin States are generally presented in terms of consumptive use, which consists of diversions minus return flows.”⁶ The DEIS thus appears to make the legal assertion that the “diversions minus returns flows” definition of consumptive use is applicable to the allocations of all of the Basin States under the Law of the River.

Such a legal assertion would be incorrect. Although the Supreme Court relied upon this “diversions minus return flows” definition in portions of *Arizona v. California*, the Supreme Court stressed that in so doing it was not interpreting the Colorado River Compact. Moreover, the “diversions minus return flows” definition of consumptive use is not present in the Colorado River Compact. Pursuant to Article VI of the Upper Colorado River Basin Compact, “consumptive use” in the Upper Basin is defined as “man-made depletions of virgin flow at Lee Ferry.”

The State of Colorado would accept the DEIS' general definition of “consumptive use” for the limited purpose of analyzing impacts of the proposed federal action within the identified geographic scope. However, the limited purpose of this definition should be made clear. The DEIS should not include statements that could be misinterpreted as interpretations of the Law of the River.

- **Off-stream Storage as Beneficial Use.** The DEIS affirmatively states that “consumptive use by a Lower Division state includes delivered water that is stored off-stream for future use by that state or another state.”⁷ The accuracy of this sentence has not been established as a matter of law, and is potentially contrary to or inconsistent with the Colorado River Compact and other elements of the Law of the River. The support for this statement is likely derived from the 1999 Offstream Storage Rules, which states that “[t]he Secretary will account for the water that is diverted and stored by a storing entity as consumptive use in the Storing State for the year in which it is stored.” (A “Storing State” is defined as a Lower Division

⁴ For example, the DEIS explains that all necessary action will be conducted through the IBWC and the Department of State at pages including, but not necessarily limited to, p. 1-18, lines 9-11.

⁵ For example, the DEIS confusingly interchanges the identification and description of mainstem activities and facilities with the phrase “Colorado River System” at pages including, but not necessarily limited to, pp. 1-9, lines 33-35; 1-18, lines 12, 29-38; and title of Appendix B.

⁶ See e.g., DEIS at p. 1-11, lines 5-7.

⁷ See e.g., DEIS at p. 1-15, lines 29-31.

State in which water is stored off the mainstream.") However, a decision by the Secretary to account for water in some fashion is not a judicial determination that offstream storage is a consumptive use. Because this sentence raises questions of Compact interpretation among the Basin States, and is unnecessary to the DEIS analysis, Colorado recommends that it be deleted.

- **Intentionally Created Surplus.** Colorado fully supports the Intentionally Created Surplus and Developed Shortage Supply programs outlined in the DEIS and more fully described in the Basin States' Comments. Intentionally Created Surplus and Developed Shortage Supply water stored in Lake Mead benefits the Lower Division by providing a storage vessel and mechanism for delivering additional water to the Lower Division States, and benefits the Upper Division by increasing levels in Lake Mead. These increased Lake Mead storage levels reduce the amount of water that must be released from Lake Powell for equalization and balancing purposes. Accordingly, instead of mentioning that ICS will be created "during this NEPA process,"⁸ Colorado recommends, consistent with the Basin States Comments, that the Final Environmental Impact Statement and Record of Decision expressly adopt Guidelines that permit the creation of Intentionally Created Surplus and Developed Shortage Supply, and provide that this water be accounted in Lake Mead for purposes of equalization and balancing from Lake Powell.
- **Status of Existing Interim Surplus Guidelines.** The DEIS states that "[t]he proposed federal action would modify the substance of the existing Interim Surplus Guidelines (ISG), published in the Federal Register on January 25, 2001 (66 Fed. Reg. 7772), and the term of the ISG from 2016 to 2026."⁹ As explained in the Basin States' Comments, the Basin States recommend that the Final Environmental Impact Statement and Record of Decision adopt the Basin States' combined Proposed Guidelines and that the Basin States Proposed Guidelines replace, rather than merely modify and extend, the existing Interim Surplus Guidelines.
- **Disclaimer.** The DEIS identifies and describes numerous elements of the Law of the River. Because the individual Basin States may disagree as to the definitive interpretation of specific aspects of the Law of the River, and the NEPA process is not intended to provide a definitive interpretation of the law, the State of Colorado recommends, consistent with the Basin States' Comments, that the Final Environmental Impact Statement and Record of Decision include appropriate disclaimer language to allow the various interested stakeholders to refrain from disputing or contesting the general characterizations of the Law of the River in the DEIS. Precedent for such disclaimer language can be found in past Annual Operating Plans promulgated by the Bureau of Reclamation and authorized by the Secretary of the Interior. Similar to that language, the disclaimer in the FEIS and ROD should provide:

Nothing in this (insert "FEIS" or "ROD" as appropriate) is intended to interpret specific provisions of the Law of the River, including, but not limited to: the provisions of the Colorado River Compact (45 Stat. 1057), The Upper Colorado River Basin Compact (63 Stat. 31), The Utilization of Water of the Colorado and Tijuana Rivers and of the Rio Grande, Treaty Between the United States of America and Mexico (Treaty Series 994, 59 Stat. 1219), the United States/Mexico agreement in Minute 242 of August 30, 1973,

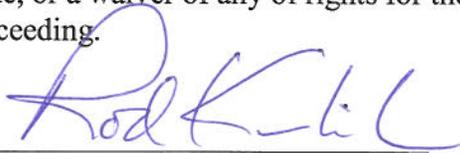
⁸ See e.g. DEIS at p. 2-2, lines 20-24.

⁹ See e.g., DEIS at p. ES-2, lines 27-31. See also, DEIS at pages including, but not necessarily limited to: ES-6, line 28; 2-2, lines 27-28; 2-11, line 3; 3-31, line 10; 4-94, line 12; Glo.6 (ISG).

(Treaty Series 7708; 24 UST 1968), the Decree entered by the Supreme Court of the United States *Arizona v. California, et. al.* (376 U.S. 340), as amended and supplemented, The Boulder Canyon Project Act (45 Stat. 1057), the Boulder Canyon Adjustment Act (54 Stat. 774; 43 U.S.C. 618a), The Colorado River Storage Project Act (70 Stat. 105; 43 U.S.C. 620), The Colorado River Basin Project Act (82 Stat. 885; 43 U.S.C. 1501), The Colorado River Basin Salinity Control Act (88 Stat. 266; 43 U.S.C. 1951), The Hoover Power Plant Act of 1984 (98 Stat. 1333), The Colorado River Floodway Protection Act (100 Stat. 1129; 43 U.S.C. 1600), or The Grand Canyon Protection Act of 1992 (Title XVIII of Public Law 102-575, 106 Stat. 4669).

- **Reservation of Rights.** The Basin States' Comments include as attachments several agreements to which Colorado is not a party. Colorado supports the submission of these attachments as necessary and important to the implementation of the Basin States' Alternative. However, Colorado was not a party to many of these agreements, and does not necessarily agree with all legal and factual recitations made therein. By supporting the Basin States' Comments and attachments, and by agreeing to the submission of these documents as necessary to the implementation of the Basin States' Alternative, Colorado does not intend to waive any disagreements it may have with legal and factual recitations made without its participation or approval.

Finally, Colorado may have other concerns with specific factual and/or legal assertions in the DEIS. However, these assertions do not appear to materially alter the analysis in the DEIS. In addition, in the course of reviewing the voluminous amount of material included within the DEIS, Colorado may have overlooked other inaccurate factual and/or legal assertions. Colorado's failure to raise such concerns in these Comments, or to correct what it believes to be inaccurate assertions, shall not be construed as an admission with respect to any factual or legal issue, or a waiver of any of rights for the purposes of any future legal, administrative, or other proceeding.



Rod Kuharich
Director
Colorado Water Conservation Board

cc: Robert W. Johnson, Commissioner, U.S. Bureau of Reclamation
Rick Gold, Regional Director, U.S. Bureau of Reclamation, Upper Colorado
Regional Office
Jayne Harkins, Acting Regional Director, U.S. Bureau of Reclamation, Lower
Colorado Regional Office
Larry Walkoviak, Deputy Regional Director, U.S. Bureau of Reclamation, Lower
Colorado Regional Office
Regional Director, Lower Colorado Region, Bureau of Reclamation, c/o BCOO-
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Scott Balcomb, Esq.
Jim Lochhead, Esq.

>>> Michael Cohen <mcohen@pacinst.org> 04/30/07 4:39 PM >>>

Attached please find comments on the "DEIS on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead," submitted on behalf of Defenders of Wildlife, Environmental Defense, National Wildlife Federation, Pacific Institute, Sierra Club, Sonoran Institute, and Western Resource Advocates.

For your convenience, we will also mail a hard copy of these comments via U.S. mail.

April 30, 2007

VIA ELECTRONIC DELIVERY (strategies@lc.usbr.gov) AND U.S. MAIL

Regional Director
Lower Colorado Region
Bureau of Reclamation
Attention: BCOO-1000
PO Box 61470
Boulder City, NV 89006

Re: Comments of NGO “Conservation Before Shortage” Consortium on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement

Dear Regional Director:

We greatly appreciate the inclusion of the “Conservation Before Shortage” Alternative by the U.S. Bureau of Reclamation (Reclamation) as one of the five alternatives under consideration in the “Draft Environmental Impact Statement on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead,” dated February, 2007 (DEIS). We also greatly appreciate Reclamation’s technical support and assistance, including its extensive modeling work, as we developed and revised the Conservation Before Shortage proposal.

We offer the following comments on the DEIS on behalf of Defenders of Wildlife, Environmental Defense, National Wildlife Federation, Pacific Institute, Sierra Club, Sonoran Institute, and Western Resource Advocates, collectively representing more than four million members nationwide.

I. Critical Preferred Alternative Components

The importance of developing shortage guidelines for Colorado River management cannot be overstated. System storage has decreased steadily through the past eight years of drought, while basin-wide uses continue to increase. We commend Reclamation’s efforts to develop shortage guidelines, and urge Reclamation to adopt a policy that will facilitate increased flexibility in water use.

We point Reclamation specifically to two key elements of the “Conservation Before Shortage” alternative (CBS) that we believe should clearly be incorporated into the preferred alternative for the “Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead.” As discussed further in our comments below, the analysis provided in the DEIS supports the inclusion of both of these elements in the preferred alternative.

First, the preferred alternative should allow for a program of *voluntary and compensated forbearance* as the volume of water in storage at Lake Mead drops below key thresholds. The

benefits of this approach, relative to the involuntary and uncompensated water shortages proposed in all other alternatives, are multiple. Rather than cutting water deliveries to the same users each time, the voluntary program would be available to all Lower Basin and Mexican water users, dispersing the impacts of reduced water use. Participants would be compensated for forbearance, decreasing or eliminating the economic impacts of the guidelines. Finally, the federal government would replace bypass flows in times of decreased reservoir storage, when they are most needed. This approach, which was recommended as a part of the YDP/Ciénega de Santa Clara Workgroup recommendations,¹ offers a more efficient way to meet the bypass flow obligation.

Second, the preferred alternative should accommodate an *extended program for Intentionally Created Surplus* (ICS), including the reservation of additional banking capacity in Lake Mead for this purpose. This program should expressly allow for the participation of the U.S. federal government, entities other than existing Colorado River contractors (including U.S. NGOs), and should leave the door open to future participation by Mexico in the event that the United States and Mexico adopt an appropriate international framework for this participation.

By allowing the U.S. federal government to participate in the ICS program, Reclamation will introduce critically-needed flexibility into the Lower Colorado River system, allowing a mechanism by which water could be acquired for a variety of purposes – including accumulation of bypass flow replacement credits, water for environmental purposes, shortage mitigation, and other needs. Similarly, by allowing entities other than just existing Colorado River contractors to participate in the ICS program, the federal government would open the door to private conservation efforts to dedicate water to environmental restoration projects. Perhaps most importantly, by leaving the door open for Mexico to create and deliver ICS credits, Reclamation would not preclude new water exchanges that could benefit water users in both the United States and Mexico, the Mexican creation of pulse flows for the Colorado River Delta, and binational agreements about shortage sharing on the Colorado River that might not be politically feasible in the absence of a binational ICS program.

We urge Reclamation to define a preferred alternative and final guidelines in the Final Environmental Impact Statement and Record of Decision that include these two policies.

II. Comments on CBS

In the following comments we further discuss the benefits of certain elements of CBS, identify various legal and technical issues associated with the alternatives presented in the DEIS and the presentation of CBS, and discuss several ways that the analysis of environmental and socioeconomic impacts of the various alternatives presented in the DEIS could be improved.

Relative Benefits of an Expanded ICS Program

In their proposal for ICS, the basin states have taken an important step forward in Colorado River management. With the river over-allocated, the best way to accommodate new uses (and

¹ See Balancing Water Needs on the Lower Colorado River: Recommendations of the Yuma Desalting Plant/Ciénega de Santa Clara Workgroup (April 22, 2005), available at http://cals.arizona.edu/AZWATER/publications/YDP_report_042205.pdf.

existing municipal and industrial (M&I) uses that are not predicated on firm supplies) is to re-allocate water. ICS will be an important new tool facilitating this re-allocation. The three basic premises of the ICS mechanism, that water can be transferred between a seller/lessor and a buyer (as allowed by the forbearance agreements), that it can be stored over time in Lake Mead (as allowed by the proposed banking arrangements), and that it can be delivered upon request, are critical to developing a water market in the Lower Colorado River basin.

Although the basin states have proposed limiting the creation of ICS to existing contractors, CBS proposes that other entities should be able to participate in the ICS mechanism, including U.S. federal agencies; state agencies; private entities, including U.S. non-governmental organizations; Mexican federal agencies; and Mexican water users and non-governmental organizations.

The benefits of expanding the ICS mechanism are multiple, including a probable increase in water stored in Lake Mead, opportunities for improving riparian habitats throughout the Lower Colorado River through dedicated instream flows, as well as an opportunity for Mexico to improve its management of Colorado River water. The benefits of this approach are partially, but not completely, discussed in the DEIS. Reclamation's analysis illustrates the first two of these benefits:

- **More water remains in storage, decreasing the probability of shortages, and increasing hydropower generation.** Reclamation's analyses consistently suggest that the greater the potential size of the ICS mechanism, the higher the probable elevation at Lake Mead (table 4.3-25) and the lower the probability of shortages in any given year (figure 4.4-2 and table 4.4-4). Reclamation's analysis also suggests that CBS would result in modest increases in hydropower generation at both the Glen Canyon power plant and the Hoover power plant when CBS is compared to both the no action and the Basin States alternatives (tables 4.11-4 and 4.11-10).
- **New opportunities to create and improve Colorado River riparian habitats.** An extended ICS policy could allow an entity such as a conservation organization or the Mexican government to generate ICS for the purpose of creating a dedicated pulse flow below Morelos Dam, which would result in a considerable improvement in riparian conditions on the southernmost reach of the Colorado River. The DEIS analysis notes this benefit (tables 4.8-1 and 4.8-8) as the greatest possible positive impact to biological resources for any of the contemplated alternatives, with "relatively high flows expected past Morelos Diversion Dam, which would benefit the riparian corridor" (DEIS at 4-172) including the neotropical migratory birds that rely on native riparian forest, such as the endangered Southwestern willow flycatcher and Yuma clapper rail. As discussed further below, we believe this analysis should be expanded.

There are additional benefits to an expanded ICS mechanism that are not discussed in the DEIS:

- **Mexico gains ability to improve Colorado River management.** As discussed in detail elsewhere below, at present, Mexico does not have the ability to store Colorado River water, and must use its entire allocation on an annual basis. Multiple examples can be found in the Lower Basin states demonstrating the advantages of storage for water management. Offering

Mexico this benefit would allow Mexico to address urban water supply challenges, and could open the door to U.S. entities purchasing temporary ICS credits in Mexico.

- **United States enters negotiations with Mexico over Colorado River shortages with something to discuss beyond unilateral imposition of shortage guidelines.** While noting that any determination of shortages with respect to deliveries to Mexico is not a part of the proposed federal action, and that any such determination would be made in accordance with the 1944 Treaty, Reclamation acknowledged the probability of a shortage agreement with Mexico by incorporating it into modeling assumptions. As Reclamation develops new rules for domestic shortages, the State Department will need to negotiate new rules for shortages to Mexico. An expanded ICS program may well be perceived by Mexican negotiators as a benefit, and may help negotiators for the United States reach a satisfactory agreement regarding Mexican shortages.

Benefits of Voluntary, Compensated Forbearance Compared to Involuntary, Uncompensated Shortage

CBS would provide compensation to willing sellers/lessors of water to forbear use, while the Basin States alternative would eliminate water deliveries, without compensation, to water users with low priority rights. The benefits of the CBS approach are numerous, and are only partially discussed in the DEIS:

- **Involuntary shortages are rare.** During the term of the guidelines, Reclamation's analysis projects that the probability of involuntary shortages under CBS remains less than 10%, while the probability under the Basin States' alternative is as high as 35% (figure 4.4-1 and table 4.4-2).
- **The economic impact of reduced water use is significantly diminished or eliminated completely.** Because of the low probability of involuntary shortages under CBS, any reductions in water use are likely to be compensated. Although Reclamation has not yet analyzed the economic impact of compensated forbearance (see further comments below), we expect that such analysis would show that the income received by water users for forbearance would substantially offset any negative impacts of reduced water use. Because CBS would solicit proposals for forbearance from willing sellers, water users would be able to choose whether or not to participate, and could make this decision based on whether or not participation would benefit them economically.
- **Reductions in water use are spread among a larger pool of water users.** Under the Basin States' alternative, reductions in water use would always be imposed on the same water users, in the same order of priority. In a stage 1 shortage (by far the most probable, see tables 4.4-5 through 4.4-9), California water users are not included in the pool of impacted water users, and prescribed shortage volumes would be imposed repeatedly on select water users in Arizona, Nevada, and Mexico. Under CBS, water users throughout the Lower Basin and Mexico would have the opportunity to participate in a voluntary and compensated forbearance program, and water users could choose whether or not to participate in the forbearance program in any given year. As discussed further below, these benefits are not adequately recognized in the DEIS.

- **The low rates of return on some crops suggest that the cost of the forbearance program could be less than \$75/acre-foot.** Reclamation’s analysis suggests that Arizona water users growing wheat, cotton, and alfalfa hay produce varied economic results with every acre-foot of water used generating anywhere from a loss of \$46.43 to a profit of \$70.48 (see table H-2). These and other water users could have an economic incentive to participate in such a forbearance program. As discussed below, Reclamation’s analysis on this subject could be substantially improved.
- **Decreased probability of shortages imposed on urban water users with low priority rights.** While Reclamation’s analysis of impacts to urban water users with low priority rights is limited, the DEIS notes that shortages to municipal and industrial water users of up to 283,000 acre-feet (af) could occur (DEIS at 4.14.3.1). Because of the very small probability of shortages under CBS, it is unlikely that urban water users would be denied water under that alternative. However, there is a considerable probability of shortages to urban users under the Basin States alternative.
- **The federal government would replace bypass flows in a cost-efficient manner.** CBS would have the volume of water conserved by the federal government under voluntary forbearance agreements count as bypass flow replacement. Reclamation has acknowledged the federal obligation to replace bypass flows (see letter from Reclamation to interested public, September 22, 2005) and is studying how the agency should proceed. By implementing a program during conservation conditions (as defined in CBS) to conserve water through payments to voluntary participants in a forbearance program, Reclamation could ensure that bypass flow replacement would occur during times of low water supply, and that bypass flow replacement water would not be lost during flood control releases. Moreover, Reclamation could avoid other, more costly alternatives for bypass flow replacement.

The remainder of this letter addresses changes Reclamation could make to improve the DEIS.

Characterization of CBS Alternative in the DEIS

Apart from Appendix K, in many instances the DEIS does not accurately or fully present CBS, which materially limits the comparison and analysis of CBS. Accordingly, we ask that Reclamation properly characterize and analyze CBS in the Final EIS and formulate the preferred alternative only after CBS has been properly characterized as follows:

- As discussed above, CBS proposes that involuntary and uncompensated water shortages on the lower Colorado River should be managed and avoided through voluntary conservation or reductions in water deliveries that are compensated through market mechanisms. In Chapter 2 and Appendix M that fundamental concept is properly expressed as “voluntary conservation” or “voluntary, compensated reductions in water use,” but in Chapter 4 and elsewhere CBS is improperly characterized as the imposition of “voluntary shortages.” Compensated reductions in deliveries under CBS should be consistently termed as “voluntary water conservation” or “compensated reductions in water use” where appropriate in any discussion of the preferred alternative and the final EIS.

An essential component of CBS is that the mechanism for ICS would be opened up to federal and state agencies, to non-governmental organizations in the U.S., and to federal and state agencies, traditional water users, and non-governmental, conservation water users in Mexico. Clearly, any international extension of this market mechanism to Mexico must go through diplomatic channels, as is repeatedly recognized by CBS and Reclamation's commentary. The DEIS does not fully disclose this key difference between CBS and the Basin States' alternative (see, for example, reference to "unassigned" ICS credits in table 2.4-1). That first discussion of CBS should disclose the other entities that could participate in the more extensive water banking proposed by CBS. To the extent such international water banking could be beyond the scope of the proposed action it should not be precluded; such up-front disclosure could be qualified and footnoted in the same way as the modeling assumptions specific to CBS in the chapter on environmental consequences (DEIS at 4-11) and in Appendix M (page M-1). In addition, to fully serve its informational role, an EIS should identify all relevant, reasonable mitigation measures that could improve the project, even if they are outside the jurisdiction of the agency. *See* 40 C.F.R. §§ 1502.16(h), 1502.14(c).

- The DEIS should clarify that under CBS up to 600,000 acre-feet of ICS could be generated by federal agencies just to avoid that magnitude of shortage in the U.S., while up to 325,000 acre-feet of ICS could be generated by other entities in any one year to restore environmental flows in both the U.S. and Mexico, and possibly to avoid shortages to municipal, industrial, and irrigation uses in Mexico. The total amount of ICS that can be banked by such other entities in any one year including all banking by federal agencies to avoid shortages should therefore be corrected to 925,000 acre-feet (Tables 2.4-1 and M-4). To the extent that the banking of ICS by current contractors under the Basin States Alternative reduces the need for banking by federal agencies to avoid shortages, however, this cap will not be reached under CBS.

This greater scope of water banking as proposed by CBS should be not be obscured, as it is by Table M-5, whose headings indicate that such ICS generation is limited to environmental flow restoration. The heading for the second column of that table should be corrected to illustrate the international water banking proposed by ICS to meet municipal, industrial, and irrigation water needs in Mexico, and so that the last column illustrates banking to provide environmental flows in the U.S., including the limitrophe below Morelos Dam. Figure P-61 should be clarified to separate out the deliveries of banked water to municipal, industrial, and water users who would divert such deliveries at Morelos Dam, from all water that would flow past Morelos Dam as deliveries of ICS water or otherwise.²

- We also understand that the interplay of the CBS proposal to generate 600,000 acre-feet of ICS to avoid that magnitude of shortage in the U.S., while at the same time maintaining the elevation of Lake Mead above 1000 feet so as to not cut-off the physical supply to Las Vegas, has not been modeled correctly. That is, the modeling now simply imposes involuntary shortages whenever necessary to keep Lake Mead above 1,000 feet, without first

² When Figure P-61 is so clarified, we expect to see the dramatic reduction of flows past Morelos Dam under the Basin States alternative to be contrasted with the delivery of banked water to maintain critical flood pulses to the Delta's river ecosystem.

seeking to develop up to a full 600,000 acre-feet of ICS to avoid involuntary shortages. This modeling assumption overstates the shortage volumes that could be required under CBS and understates its benefits in comparison to other alternatives.³ To properly characterize CBS, the model should assume that the ‘absolute protect 1000’ involuntary shortage provision would be triggered only if 600,000 acre-feet of voluntary conservation would not be sufficient to keep Mead above an elevation of 1000 feet.

Moreover, involuntary water shortages in the U.S. greater than 600,000 acre-feet may be implied in the Basin States alternative in the event that Lake Mead would be drawn below 1000 feet of elevation during an extreme drought and the physical supply to Las Vegas is cut-off. This alternative cannot be fairly compared to CBS unless the involuntary shortages greater than 600,000 acre-feet inherent in the Basin States alternative are added to the operational modeling and all related analyses.

- To assess the longest possible stretches of river where flows might be reduced, the operational modeling for the DEIS creates the impression that all ICS proposed by CBS is generated in Mexico even for the replacement of bypass flows in the U.S (DEIS at M-8 and 9). So that the actual parameters of CBS are not mistaken with that analytical assumption, those parameters should be disclosed simultaneously.

CBS proposes that the ICS to replace bypass flows could be generated in both the U.S. and in Mexico. CBS also presumes that ICS for environmental flows in the U.S. or Mexico or to meet other Mexican water needs can be generated in either the U.S. or Mexico, and for such ICS to be delivered for use in either the U.S. or Mexico, as illustrated in Appendix K.3.⁴ One might expect that most ICS generated in the U.S. would be applied to manage U.S. shortages, and most ICS generated in Mexico to be applied to flow restoration and other water needs in Mexico, but CBS would not be unilateral and would keep the door open to substantial cross-border investments, water banking, and transactional innovations. We recommend that the FEIS include a sensitivity analysis of changes that would occur if ICS were distributed more broadly across users downstream of Lake Mead.

- Along with leaving the impression that ICS would only be generated in Mexico, the DEIS fails to explain a basic mechanism in CBS. When ICS is generated in Mexico in one year for delivery back to Mexico in another, the deliveries to Mexico under the Treaty with the U.S. should be reduced by the amount of the ICS in the year that it was generated, but then in the year that it was delivered back to Mexico, the amount of the ICS delivered would be in addition to all deliveries obligated by the Treaty.
- The modeling of CBS may properly apply the 5% system charge by not assessing this charge against the bypass flow account until ICS is generated to avoid water shortages in the U.S.,

³ This mis-modeling may explain much of the difference between CBS and the Basin States alternative in the probabilities of involuntary shortages and consequent socio-economic impacts summarized in Tables 4.14-3 and 4.14-4.

⁴ CBS does not include water transactions entirely within Mexico to restore base flows, but such transactions could be combined with CBS and riparian land restoration for a comprehensive plan to conserve the river dependent ecology of the Delta.

and not assessing it against any ICS that is generated and delivered to meet Mexican river flow or other needs, but that modeling assumption could be confirmed. The assessment of the 5% system charge against all other generation of ICS under CBS might then be footnoted as it is for the Basin States alternative in Table M-3, or the 5% charge added to Table M-3, as it was for Table M-4, so that is clear that the system charge is not applied differently across these alternatives.

- The DEIS misses several important aspects of the approach to funding forbearance when the water surface elevation at Lake Mead declines, which evolved after we submitted the original CBS proposal in 2005 and is described in the proposal we submitted in 2006 (CBS II). Federal funding would not be limited to the volume of voluntary water conservation needed to replace bypass flows in any year in which such conservation was triggered (page 2-13), but would be sought for all such conservation up to the maximum storage of 1.5 million acre-feet of ICS generated by federal agencies, because of the benefits of both bypass flow replacement and environmental flow restoration. The funding for banking additional ICS beyond that maximum for U.S. agencies would then be shared 50/50 by U.S. agencies and Lower Basin power and water users, and the water and power users would split their share 50/50 (see Appendix K, page K-5). Such cost sharing offers a strong incentive for state, private, and international investment in ICS for environmental flow restoration and provides an initial basis for discussion of how to distribute such costs equitably.

It appears that the DEIS misapplies this funding concept to suggest that CBS would impose a \$20-\$100 surcharge for every acre foot of hydropower generation in the Lower Basin, which is incorrect. The concept of hydropower users sharing in perhaps 25% of the cost of generating ICS for environmental flow restoration is only applicable after a maximum of 1.5 million acre-feet of ICS is banked by federal agencies, and therefore would not be automatically applied or at all times. Such cost sharing also is illustrative and needs to be adjusted in proportion to the benefit to hydropower generation associated with the greater water banking at Lake Mead proposed by CBS, as indicated by Table 4.11-29,⁵ and all other benefits of ICS, as properly characterized.

III. Comments on the Draft Environmental Impact Statement

Legal Considerations

As demonstrated in CBS, we encourage efforts to increase flexibility in Colorado River management. Such flexibility, however, should not come at the expense of the Secretary of the Interior's environmental authorities and obligations nor should the Secretary relinquish his role as water master in lower Colorado River management to achieve such flexibility. If Reclamation and this EIS make clear that the creation, storage, and delivery of ICS is within its authority to oversee and implement, then Reclamation should adopt the ICS program that is most environmentally beneficial. Reclamation must also expand the scope of the EIS to include the direct, indirect, and cumulative impacts of all who may participate in the ICS program.

⁵ Per Table 4.11-29, 13% more hydropower energy is generated under CBS than the Basin States alternative and the present value is about \$14 million more. The benefits to hydropower generation mostly at Lake Mead could also be greater over the interim period.

Both the DEIS and this letter note that various aspects of the alternatives, such as funding mechanisms in CBS, may require additional legislative authority. What has not been addressed is the potential need for additional federal rules or guidelines administering the ICS program as proposed in the CBS, Basin States, and Reservoir Storage Alternatives. The DEIS implicitly assumes that each alternative would implement the ICS program consistently, not altering the rules under which an entity would participate in ICS, change the relative size of any of the states' ICS banks, or, fundamentally, interpret the Law of the River differently than another alternative.

The DEIS, however, largely is silent as to how the Secretary would administer the ICS program. The Secretary has a prominent role in managing the Colorado River and will play a decisive role in implementing any of the alternatives, including ICS. An ICS program will entail a range of federal actions, from oversight and accounting to storage and delivery, possibly in the form of agreements to reduce water use and create ICS credits, to store ICS credits, and to delivery ICS credits. To ensure that this EIS process enables the adoption of the ICS program in CBS and sets the stage for future site-specific actions under the ICS program, it is critical that Reclamation expand the scope of the EIS.

Scope of the DEIS

The scope of an EIS depends not only on the range of actions and alternatives, but on the range of impacts resulting from each alternative, including direct, indirect, and cumulative impacts. 40 C.F.R. § 1508.25. The scope of the DEIS is particularly important for those actions which may require additional NEPA analysis and which may wish to tier to the instant EIS. *See* 40 C.F.R. §§ 1502.20, 1508.28 (Tiering is a process of addressing a broad program or proposal in a programmatic environmental impact statement and analyzing a site-specific proposal related to the initial proposal in a subsequent NEPA document).

The DEIS overlooks several geographic regions, and thus environmental resources, that potentially may be affected by the alternatives and their direct, indirect and cumulative impacts. For example, CBS contemplates voluntary conservation by any water user within the Lower Basin or Mexico. Because the conservation would be voluntary, and not based strictly on relative priorities of water entitlements, the impacts analyses must consider reductions in water use across the entire spectrum of water uses and users in the Lower Basin and Mexico. These omissions are most pronounced in the discussion of the affected environment and environmental consequences for biological resources, socio-economics, and land use. *See e.g.*, DEIS at 3-3 (including a narrow set of service areas in the affected environment); DEIS at 3-27 (expecting no change to Yuma area drainage flows); DEIS at 3-127 (limiting study area to those where “shortage” may occur); DEIS at 3-131 (limiting study area to MWD service area); DEIS at 4-261 (excluding Nevada and California from analysis); DEIS at Table 4.14-1; DEIS at 4-281 (concluding no effect to agricultural production in California or Nevada because no shortage); DEIS at 4-282; DEIS at 5-14 (exclusion of decreased flows and altered timing of flows in the Muddy River due pumping of groundwater under Coyote Spring Valley that may then be wheeled through or banked as ICS in Lake Mead); and DEIS at Table M-4 (exclusion of decreased river and spring flows, altered timing of flows, and significant wetland impacts from pumping 80,000 acre-feet/year of groundwater whose return flow credits are then banked as ICS at Lake Mead). The discussions of the affected environment and environmental consequences

are presently deficient because the full scope of the alternatives and their impacts are not examined.

Climate Change

As Reclamation considers various policies to manage droughts in the Lower Basin, it would be useful to have an understanding of how climate change might impact water supply. The Intergovernmental Panel on Climate Change issued a report⁶ in early 2007 documenting the high level of scientific confidence in projections that the Colorado River basin will change significantly over the next century, both warming and drying. Under all scenarios, the report suggests an increase of one-to-two degrees Celsius for the southwestern United States from 2020-2029, as compared to 1980-1989. Such a rise in temperature will increase evaporative losses and evapotranspiration demand throughout the basin, coinciding with the proposed term of Reclamation's surplus and shortage guidelines. Moreover, the report documents that more than 90% of the models examined agree that winter precipitation in the southwestern United States will decline by 10-20% by 2090-2099, as compared to 1980-1989. While this timeframe is longer than that contemplated by the shortage guidelines, it suggests that precipitation changes might occur within the period of the guidelines. Some models show a significant drying of the Southwest U.S. as soon as the 2021-2040 period.⁷ As the United States Geological Survey recently said, "We need to look at a large range of possible futures for water and [evaluate] how well will our designs, plans and allocations work under a whole range of climate scenarios – because we can't narrow it down."⁸

It would be useful for Reclamation to include in the FEIS a robust attempt to consider the impacts of all alternatives in consideration of the projected impacts of climate change. Moreover, we suggest that this analysis not be buried in an appendix, but that it should be discussed in the central text of the EIS, concomitant with the absolutely paramount importance of planning realistically for climate change.

The sensitivity analysis presented in appendix N (Analysis of Hydrologic Variability Sensitivity) is useful, as it expands the hydrologic variability modeled based on recent historic and paleo-hydrologic data. However, it is not adequate as a substitute for meaningful modeling that represents the expected impacts of climate change.

Term of the Proposed Guidelines

In our scoping comments we suggested that shortage guidelines should not be interim. However, recent IPCC and other climate change projections suggest that hydrologic assumptions driving

⁶ International Panel on Climate Change, 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Summary for Policymakers, available at http://www.ipcc.ch/WG1_SPM_17Apr07.pdf. See also: P.C.D. Milly, K. A. Dunne, and A. V. Vecchia, 2005. Global pattern of trends in streamflow and water availability in a changing climate. *Nature* **438**: 347-350; M. Hoerling and J. Eischeid, 2007. Past Peak Water in the West. *Southwest Hydrology* **6**: 18-19,35; and N. Christensen and D.P. Lettenmaier, 2007 (in review). A multimodel ensemble approach to assessment of climate change impacts on the hydrology and water resources of the Colorado River basin. *Hydrology and Earth System Sciences*.

⁷ Seager, et. al., 2007. Model projections of an imminent transition to a more arid climate in southwestern North America. *Science Express*. April 5.

⁸ Lucy Kafanov, *Water Managers Must Gird for Extreme Conditions*, E&E News PM (April 27, 2007).

the current analysis (namely, that past hydrology is a reasonable predictor of future flows) might not be reasonable or informative. Given the potential for climate change to dramatically alter Colorado River hydrology – probably for the worse – we now believe that the limited lifespan of the shortage policy will be appropriate.

Nonetheless, it would have been useful to see the effects of leaving the alternatives in place past 2026. Projecting hydrologic impacts out to 2060 while arbitrarily assuming that shortage guidelines would not be extended only masks the likely conditions of the system beyond 2026.

Salinity

The DEIS neglects to explain why the CRSS salinity module (DEIS at 4-131 and F.1) was not expanded or modified to analyze changes in salinity below Imperial Dam. Projected salinities at the Northerly International Boundary (NIB) should be included in the final EIS, as it bears directly on salinity management measures in the Yuma area. As noted on Figure ES-1, the NIB clearly falls within the geographic scope of the action; salinity itself is a recognized water quality parameter analyzed for upstream reaches.

Pursuant to Minute 242, the United States has agreed to deliver Colorado River water to Mexico upstream of Morelos Dam with an annual average salinity of no more than 115 ppm ± 30 ppm over the annual average salinity of the Colorado River waters which arrive at Imperial Dam. Projecting the salinity at NIB would very likely distinguish among the alternatives, and would also be of great value in projecting the ability of the U.S. to meet a recognized treaty obligation. Whether an alternative may or may not adversely affect the ability to meet legal obligations would aid in the selection of a preferred alternative; the extent of adverse impact would also contribute to the significance of the impact. *See* 40 C.F.R. § 1508.27(b)(10).

The single greatest factor increasing the salinity of the Colorado River between Imperial Dam and NIB is the return of agricultural drainage to the river. In recent years, the salinity differential has approached the maximum value set by Minute 242. Diminishing the volume of ‘non-storable flows’ at the border will further increase the challenge of meeting the differential. CBS presumably could reduce the volume of these drainage flows or increase the delivery of water to Mexico from Lake Mead, thereby decreasing the river’s salinity at NIB and facilitating Reclamation’s ability to meet the salinity differential. Modeling a range of sources of voluntary reductions under ICS and CBS, including some that would otherwise discharge brackish return flows to the Colorado River between Imperial Dam and NIB, would provide better information to the reader and allow for better analysis of the alternatives.

Table ES-2 (DEIS at ES-18) should include a row describing projected salinities at NIB under each of the alternatives, and/or the salinity differential relative to Imperial Dam. The discussion of salinity at the NIB in Section 3.5.1 should be expanded, and should include a figure depicting annual salinities and flow at the border, similar to the figures included for other points along the river.

Biological Resources

We recognize that Reclamation has taken the position that it is under no obligation pursuant to NEPA to evaluate the impacts of this federal action on environmental values in Mexico.

However, we nevertheless suggest that some consideration of these impacts is warranted, if nothing else as a matter of international comity. This is particularly true in light of the fact that, of all of the portions of the Colorado River most likely to be directly affected by this action, the limitrophe and the Mexican portions of the Colorado River Delta will likely bear the greatest risk.

Conservation groups have defined restoration of the riparian corridor of the Colorado River delta as a major priority,⁹ and have identified restoration of pulse flows to the delta as a central requirement for success. There are long-standing debates over how this water should be supplied, but no disagreement about the benefits of such pulse flows. By adopting an ICS program that leaves the door open to an international agreement that would allow for the generation and delivery of ICS as dedicated flow for the delta, the federal government would facilitate the best remaining opportunity to restore native habitat on the Colorado River, impacting the 23 miles of the delta's riparian corridor in Arizona, and the final miles of the river down to its outlet in the Upper Gulf of California.

The significance of restoring the riparian corridor below Morelos Dam is immense, as this is one of the only reaches of the Lower Colorado River where an opportunity exists to use pulse flows to create overbank flooding necessary to sustain viable native cottonwood and willow habitat. Above Morelos Dam, scheduled year-round water deliveries create high base flows in a relatively large channel, such that very large floods would be necessary to re-create such floods throughout most of the corridor. Below Morelos Dam, there are no scheduled deliveries for water users, base flows are low in a relatively small channel, such that relatively small floods, such as those contemplated in the CBS proposal, could provide the necessary overbank flows. Please see our letter to Reclamation, dated February 15, 2007, regarding the Environmental Assessment for the Lower Colorado River Drop 2 Storage Reservoir Project, for additional information on the environmental resources and affected environment in the limitrophe reach.¹⁰

Several existing and planned habitat restoration projects would benefit directly from pulse flows in the delta, including 20 acres already planted with native vegetation between the railroad bridge and the Carranza Crossing, with 4,400 more acres planned for restoration, 90 acres planned in the near term for Hunters Hole, and 100 acres planned for the near term on the Cocopah Reservation. The entire riparian corridor of the Colorado River below Morelos Dam has been identified as a priority for restoration in the long term.¹¹

Of particular concern for Mexico in the Basin States alternative will be the provisions related to the implementation of shortages on the Lower Colorado. Although the 1944 Treaty provides that Mexico is to share "proportionately" with U.S. users in times of "extraordinary drought," the precise meaning of this provision remains unclear, and it has never been invoked since the time

⁹ Sonoran Institute et al., 2005. Conservation Priorities in the Colorado River Delta: Mexico and the United States.

¹⁰ The exceedingly brief description of baseline conditions for wildlife in the limitrophe yields a similarly deficient impact analysis. For example, the DEIS (at 4-200) states that there will be no impacts to special status fish, plants or amphibians from the NIB to SIB because none exist. There are, however, several special status species in this reach, as demonstrated in Table 3.2-4 of the Drop 2 EA. The DEIS is also completely silent as to special status birds, such as the Southwestern willow flycatcher and the Yuma clapper rail. The EIS must account for impacts – adverse and beneficial – to these species.

¹¹ Conservation Priorities in the Colorado River Delta: Mexico and the United States (2005; Sonoran Institute et al).

of the Treaty's execution. The Basin States Alternative unilaterally and precisely defines a set of proposed parameters under which shortages would be implemented against the Mexican allocation. We recognize that Reclamation has not itself proposed any specific shortage amount to Mexico; it has only adopted a potential shortage value as a modeling assumption. However, this modeling assumption demonstrates that Mexico will bear a significant risk of shortage under the Basin States Alternative (as well as other alternatives).

Because Mexico has no readily available mechanisms to reduce or mitigate against shortage impacts on its users (such as reservoir storage or water banking), shortages in Mexico will generate impacts as significant, if not more significant, than those that would arise among low-priority users in the U.S. These impacts would translate directly to environmental impacts in the Colorado River delta, which relies primarily on excess deliveries and agricultural drainage flows for its water supply.

Just as significantly, both the Basin States alternative and CBS will create incentives to further increase the efficiency of U.S. water delivery systems by providing opportunities to receive ICS credits for the funding of these projects (e.g., Southern Nevada Water Authority's proposed funding of the Drop 2 reservoir). On an individual and cumulative basis, these projects will reduce normal-year deliveries to Mexico by decreasing the volume of non-storable flows. Combined with gradually increasing efficiency in agricultural water use throughout the system, the restriction of ICS as proposed by the Basin States will continue to pose challenges for the maintenance of critical environmental values in the delta, which receive virtually all of their current water supplies from agricultural return flows, excess deliveries, canal leakage, and occasional flood events.

Regardless of whether Reclamation is required to consider environmental impacts south of the border, Reclamation need not ignore environmental benefits that might be associated with a given alternative, particularly where those benefits would implicate endangered species and migratory birds in the United States. Indeed, a primary advantage of CBS is that it would provide a storage mechanism that could be used to improve environmental conditions in Mexico (assuming the adoption of appropriate international agreements), some consideration of these benefits, however speculative, seems appropriate.

We urge Reclamation to expand the discussion of biological resources in section 3.8.1.4 and potential negative and positive impacts of the proposed alternatives in section 4.8.4.7. For your consideration, we include the following relevant information.

Biological resources below NIB

The remnant riparian and marsh wetlands areas in the Colorado River delta in Mexico, and the limitrophe area in the U.S. provide crucial habitat to several threatened and endangered species listed in Mexico and the U.S. and a key stopover along the Pacific Flyway. These wetlands provide habitat essential to over 350 species of land and aquatic migratory birds on their seasonal traverse of the continent. A recent survey of birds found densities to be 10 times higher in the Colorado River delta, than on the river above Morelos Dam.¹² Endangered species, including

¹² Hinojosa-Huerta, 2006. Conservation of Birds in the Lower Colorado River Delta, Mexico. Dissertation from the University of Arizona, Tucson.

the Yuma clapper rail and the Southwestern willow flycatcher, as well as the Yellow-billed cuckoo (under consideration for federal protection) rely on Colorado River habitat south of NIB, as do a number of species listed as wildlife of special concern by the state of Arizona. Ten species of breeding birds and fourteen species that use the Colorado River south of NIB as stopover or wintering ground have acquired legal protection status under Mexican laws (Endangered, Threatened, or Special Protection).¹³

Table 1.¹⁴ Bird species under a protection category in Mexico or of conservation concern in the Colorado River delta.

Species	Protection Category	Breeding Status	Relative Abundance	Temporal Presence
Least Grebe	SP	NB	CA	SU
Laysan Albatross	TH	NB	RA	SP
Black Storm-Petrel	TH	NB	CO	PE
Least Storm-Petrel	TH	NB	CO	PE
Reddish Egret	SP	BR	RA	SU
Roseate Spoonbill	NP	NB	EX	WI
Fulvous Whistling-Duck	NP	BR	EX	SU
Brant	TH	NB	UN	WI
Bald Eagle	EN	NB	UN	WI
Sharp-shinned Hawk	SP	NB	UN	WI
Cooper's Hawk	SP	NB	UN	WI
Harris' Hawk	SP	NB	UN	WI
Red-shouldered Hawk	SP	NB	CA	WI
Swainson's Hawk	SP	NB	UN	WI
Ferruginous Hawk	SP	NB	RA	WI
Peregrine Falcon	SP	NB	UN	WI
Prairie Falcon	SP	NB	RA	WI
California Black Rail	EN	BR	RA	PE
Yuma Clapper Rail	TH	BR	CO	PE
Virginia Rail	SP	BR	CO	PE
Sandhill Crane	NP	NB	EX	WI
Snowy Plover	TH	BR	UN	SU
Heermann's Gull	SP	NB	CO	PE
Gull-billed Tern	NP	BR	CO	PE
Elegant Tern	SP	BR	RA	SU
Least Tern	SP	BR	UN	SU
Yellow-billed Cuckoo	NP	BR	UN	SU
Western Screech-Owl	NP	BR	RA	SU
Short-eared Owl	SP	NB	RA	WI
Gilded Flicker	NP	BR	EX	SU
Southwestern Willow Flycatcher	NP	BR	EX	SU
Bell's Vireo	NP	BR	RA	SU
Lucy's Warbler	NP	BR	EX	SU
Summer Tanager	NP	BR	EX	SU
Large-billed Savannah Sparrow	SP	BR	CO	SU

¹³ See Table 2 in Diario Oficial de la Federación (DOF), 2002. Norma Oficial Mexicana NOM-059-ECOL-2001, Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo. Secretaría de Medio Ambiente y Recursos Naturales. México, D.F. Marzo 6.

¹⁴ From Hinojosa-Huerta, 2006. Four codes are given for each species: **Protection Category** in Mexico (SP – Special Protection, TH – Threatened, EN – Endangered, NP – No Protection), **Breeding Status** (NB – Non-breeding, BR – Breeding), **Relative Abundance** (EX – Extirpated, CA – Casual, RA – Rare, UN – Uncommon, CO – Common), and **Temporal Presence** (WI – Winter, SP – Spring, SU – Summer, PE – Perennial). Abundance categories follow M.A. Patten, E. Mellink, H. Gómez de Silva, and T.E. Wurster. 2001. Status and taxonomy of the Colorado Desert avifauna of Baja California. *Monographs in Field Ornithology* 3:29-63.

The importance of the Colorado River riparian corridor south of NIB for the conservation of birds has been recognized both nationally and internationally. In Mexico, a portion of the delta's wetlands are protected by the Upper Gulf of California and Colorado River Delta Biosphere Reserve.¹⁵ The delta is also an Important Bird Area in Mexico, and a priority site for the conservation of biodiversity as decreed by the National Commission on Biodiversity.¹⁶ This ecosystem has additionally been recognized as a wetland of international importance by the Ramsar Convention,¹⁷ and is part of the Western Hemisphere Shorebird Reserves Network.¹⁸

A century ago, the cottonwood-willow forest was very common in the Colorado River delta. Currently, only approximately 7,500 acres of cottonwood-willow forest remain. Most of the present vegetation in the riparian corridor has been regenerated by flood releases from the U.S. over the last 20 years. These areas of native vegetation have been maintained by non-storable flows from the U.S. and Mexico. Reclamation estimates an average of more than 70,000 acre-feet/year of deliveries in excess of Treaty requirements at NIB (see Drop 2 Draft Environmental Assessment, November 2006), some of which are passed directly below Morelos Dam, and some of which reach the riparian corridor via wasteways.

The riparian corridor is used by migrating species, and thus its ecological value cannot be considered in isolation. Neotropical migratory songbirds travel through this region on their journey to northern breeding areas in the U.S. and Canada and to their wintering grounds in southern Mexico and Central America. These species migrate along the Sonoran coast of the Gulf of California, and the Colorado River delta provides their first opportunity to stop in native riparian habitat where food and cover are abundant. The rarity of cottonwood-willow forest in this reach of the migration route—populations of riparian obligates have been significantly reduced on the Lower Colorado River—adds significantly to the importance of the remaining Colorado River riparian corridor below Morelos Dam.

While there is a distinct difference between the quality of Colorado River riparian habitats below and above Morelos Dam, it remains important to recognize the connectivity of the water source and the potential for connectivity in habitat. The abundance of water birds in the delta's riparian corridor has been increasing during recent years, with the creation of lagoons and marshes. Several species of waterfowl are now common in the area, with an estimated 2,000-4,000 thousand individuals each winter, in particular Mallard, American Widgeon, Northern Pintail, Green-winged Teal, and Cinnamon Teal. The riparian corridor also provides unique habitat types (freshwater river banks) for some sensitive species, such as the Spotted Sandpiper.

Flood control releases and over-deliveries, as well as groundwater and local agricultural returns are all important water sources for the Colorado River riparian corridor south of NIB, and each of these water supplies might be impacted as system efficiency improvements are implemented.

¹⁵ SEMARNAP. 1995. Programa de Manejo Reserva de la Biosfera del Alto Golfo de California y Delta del Río Colorado. Secretaria del Medio Ambiente, Recursos Naturales y Pesca, Publicacion Especial 1, México D.F.

¹⁶ M. Cervantes, M.J. Román, y E. Mellink. 1999. AICA: NO-17 Delta del Río Colorado. En: Benítez, H., C. Arizmendi, y L. Márquez. Base de datos de las AICAS. CIPAMEX, CONABIO, FMCN y CCA. (<http://www.conabio.gob.mx>).

¹⁷ Ramsar Convention Bureau. 1998. See http://www.iucn.org/themes/ramsar/about_infopack-2e.htm

¹⁸ Western Hemisphere Shorebird Reserve Network. 1993. Western Hemisphere Reserve Network Site Profiles. WA publication No. 4, Wetlands for the Americas, Manomet and Buenos Aires.

Significantly, the CBS alternative creates a mechanism to deliver conserved water to the riparian corridor south of NIB.

Socio-Economic Impacts

One significant benefit of CBS as compared to any other alternative under consideration in the DEIS is that the first 600,000 acre-feet of potential “shortages” are avoided under CBS through voluntary, compensated forbearance rather than involuntary shortages imposed on lower-priority users. The existence of a compensation mechanism clearly limits the extent of economic impact that will be associated with a “water delivery reduction,” since the individual farmer or water user that experiences the reduction receives fair market compensation for voluntarily undertaking the reduction. Properly designed, such a mechanism should have the effect of mitigating economic impacts to individual farmers, local farm economies and labor markets, and local tax bases.

Under market conditions, forbearance should be distributed preferentially to those uses of water that produce the lowest economic returns. As such, one would anticipate that low-value crops would be fallowed before any higher-value crops or municipal uses. To the extent that farmers or other users seeking to participate in such a program might be able to obtain higher returns for their water via forbearance than they could via the normal use of that water, these users would realize greater economic benefits from voluntary conservation than they would otherwise receive.

These same assumptions cannot be made for involuntary shortages, since these will be governed by the water right and contract priority systems within each state. Within Arizona, for example, the existing system of priorities among CAP and the various on-river users would leave on-river municipalities exposed to significant shortages well before lower-value, higher-priority agricultural uses, and virtually every user on the CAP canal would be exposed to shortages prior to any of the present perfected right holders in the state. Moreover, even within the agricultural community, agricultural users would be reduced based on the relative priority of their rights. As such, CAP contracts for high-value agricultural users could be reduced before contracts or higher priority on-river rights dedicated to low-value agricultural crops. A market based program could also reflect the additional value of senior water right or contract priorities and tends towards the reduction of the lowest value and lowest priority users, but those choices would be made in the marketplace.

In addition, the benefits and/or costs of voluntary conservation efforts would not necessarily accrue in just one state – for example, although few if any involuntary shortages would ever reach California under the Basin States alternative, farmers and other water users in any of the Lower Basin states could potentially participate in voluntary fallowing, depending on market demand. Under CBS, the door would be left open to potential Mexican participation as well – mitigating the socio-economic and environmental impacts from involuntary shortages in Mexico and avoiding international conflict over the unilateral imposition of shortages.

The DEIS makes clear that once shortages occur, there is a significant likelihood that they will be sustained over multiple years. Involuntary shortages will necessarily be distributed to low-priority users for long periods, causing sustained economic disruptions in the communities where

those users are located. By contrast, voluntary conservation will not necessarily fall on the same users year after year, since individual users will be able to decide whether or not they can and should participate in voluntary conservation or fallowing efforts each year.

Insofar as the DEIS has followed existing priority schedules within Arizona when assigning involuntary shortages and has not evaluated the greater geographic and more flexible distribution of voluntary conservation, it has underestimated both the economic impacts associated with involuntary shortages under the Basin States alternative and the relative benefits of voluntary conservation under CBS. In analyzing socio-economic impacts, the DEIS implies that data on cost of water and on market prices for irrigation forbearance are needed to compare the Basin States alternative and CBS (DEIS at 4-264 through 266). In fact, no cost of water or market data were considered in analyzing the impacts of the involuntary shortages imposed under either alternative, while the same partial farm budgets that were applied to compare the socio-economic impacts of involuntary shortages in the agricultural sector in Arizona, could be applied to quantify a monumental difference in the socio-economic impact of these two alternatives. That is, the net agricultural income from voluntary conservation at a large scale would not be lost under CBS, and would offset such direct socio-economic losses from the involuntary shortages that could be imposed under the Basin States alternative. Institutionalizing the rotational elements of voluntary conservation and not permanently retiring irrigation would also offset much more of the indirect socio-economic losses.

Although it may not be possible to quantify all the socio-economic benefits of CBS, the preferred alternative should not be formulated without recognizing them clearly and concretely.

CBS Funding

The DEIS notes that “the viability of the Conservation Before Shortage program funding proposal is not known at this time. Reclamation does not have the authority to implement all facets of this proposal and additional legislation would be necessary to gain such authority.” (DEIS at 2-13). While we fully recognize that some aspects of CBS would require new legislative authority to implement, we would also note that with year-to-year appropriations, the funding viability of any federal program is not known with certainty. Key aspects of both CBS and the Basin States alternative are contingent on the outcome of future international diplomacy, which is currently unknown.

This blanket statement also fails to recognize the fact that the authority and funding for one major element of CBS – the bypass flow replacement component – is better known. Reclamation does have a mandate, or at least authority and some annual funding, to engage in compensated water reductions on the Lower Colorado River. Under the Colorado River Basin Salinity Control Act, 43 U.S.C. § 1574, the replacement of the annual MODE bypass flow is a “national obligation” for which Reclamation is responsible. Until recently, this obligation was satisfied by the lining of the Coachella Valley Canal; however, at this point it is once again an active federal obligation. As such, the consideration of a compensated mechanism for reducing water use - at least to the extent of the national bypass flow replacement obligation – is entirely consistent with the existing requirements of federal law. We note that Reclamation is currently considering several potential mechanisms for bypass flow replacement resulting from the work

of the YDP/Ciénega de Santa Clara Working Group. These include a voluntary fallowing program that would operate in a manner essentially similar to that proposed by CBS.

Moreover, Reclamation has the ability in a NEPA analysis to consider alternatives that are outside its jurisdiction, *see* 40 C.F.R. § 1502.14(c), or require legislation for implementation. *See City of Sausalito v. O’Neill*, 386 F.3d 1186, 1208-09 (9th Cir. 2004) (cautioning that an alternative may be reasonable and not excluded from an EIS even if it requires additional legislative action); *Natural Resources Defense Council v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) (reasoning that “[t]he mere fact that an alternative requires legislative implementation does not automatically establish it as beyond the domain of what is required for discussion, particularly since NEPA was intended to provide a basis for consideration and choice by the decision-makers in the legislative as well as the executive branch”).

Environmental Justice

The action alternatives’ potential environmental justice impacts merit greater consideration and description in the FEIS. Other sections in the DEIS assess potential impacts over a range of shortage volumes. Instead, section 4.15 uses only one example, of the potential job loss of a 500,000 acre-foot shortage, in an effort to suggest that potential effects on environmental justice communities would be negligible. This is insufficient and unsubstantiated.

Expanded Opportunities for Bi-National Conservation

The inclusion of an expanded ICS program and a federally-controlled bank allotment in Lake Mead that would allow for U.S. federal, future Mexican participation, and/or non-contractor participation in ICS will also produce a series of potential benefits that deserve consideration in the NEPA process.

The Basin States alternative is largely concerned with water delivery operations between and among the Basin states, particularly the states of the Lower Basin. However, there are other interests that could potentially be met through U.S. federal participation in a Lake Mead banking program, including obtaining temporary water supplies for federal reservations, environmental programs (including MSCP), salinity control needs, protection of the power head at Hoover Dam or of recreational values, speculative accumulation of bypass flow replacement or other credits, or providing a reserve supply for water exchanges. This same mechanism could be used by current non-contractors to meet private water supply needs as well.

Reclamation’s modeling clearly demonstrates that there would be no net increase in shortage risk associated with the maintenance of a federal bank allotment; quite to the contrary, the modeling shows a net benefit from the existence of such a bank insofar as this would tend to keep reservoir levels in Mead somewhat higher than would be expected with the smaller banking allotments provided by the Basin States Alternative. Given this net benefit to water users and the significant ancillary benefits that could be realized through a federal allotment, the inclusion of such a mechanism in the final preferred alternative adopted through the NEPA process is appropriate.

It should also be noted that the inclusion of a federal banking allotment and ICS program would be consistent with and build on the Basin States Alternative, as it would not alter the rules under which the Basin States would participate in ICS, change the relative size of any of the states’ ICS

banks, or require interpretations of the various provisions of the Law of the River different than those implicated by the Basin States Alternative. All of the activities discussed above would seem to be well within Reclamation's inherent river regulation authority under the Boulder Canyon Project Act.

Obviously, any Mexican participation in an ICS program would require appropriate amendments to the current international framework to allow for temporary reductions or increases in Treaty deliveries. These could clearly be accomplished via the adoption of a new Minute to the Treaty of 1944 by the International Boundary and Water Commission.

Since these amendments to the Treaty framework are not currently in place, Reclamation cannot assume that such programs will in fact be established in the future. However, insofar as some elements of the Basin States proposal have expressly contemplated Mexican participation in shortages, we suggest that some consideration of the potential benefits of Mexican participation in the NEPA process is warranted, since the implementation of the Seven States Agreement on which the Basin States Alternative is premised – most notably the proposed shortage policy and proposed policies for unilateral water exchanges – will already require consultation with Mexico and/or the adoption of a new Minute. Other opportunities for Mexican participation could be considered in the same diplomatic process.

As discussed in the white paper attached to the CBS submittal, *Taking ICS to Mexico*, significant benefits for U.S. water users, Mexican water users, and the environment could potentially be derived from extending proposed policies related to ICS, system efficiency improvements, and water exchanges to include water users in Mexico. Such a program could provide significant assistance in resolving difficult issues related to urban, agricultural, and environmental water supplies in Mexico, while opening enormous opportunities for both U.S. and Mexican water users to obtain water supplies via funding of irrigation efficiency improvements, the construction of urban water infrastructure, water supply replacement or enhancement, desalination, and other projects.

These credits could be used to firm up urban water supplies in both countries, engage in long-studied environmental restoration projects in the Delta, and increase flexibility in Mexico's agricultural sector – creating economic, environmental, and social benefits in both countries while offering the United States and Mexico a venue for cooperation in the otherwise contentious area of water management at the border. These opportunities would clearly help to offset the negative impacts to Mexico that might otherwise be associated with a shortage strategy.

Given the potential benefits, we urge Reclamation to leave the door open to such a program in the preferred alternative and the ROD, and include both an unassigned banking allotment and a broader ICS mechanism.

Individual Technical Corrections to the DEIS

p. 3-17 delete “to construct” from quoted material

p. 4-76 lines 13-19 appear out of place. Are they a repeat of p.4-41 lines 16-22?

p. 4-164 section 4.8.2.2 discussing NIB to SIB should refer to pulse flows below Morelos Dam rather than “excess” flows as ICS for delta would by definition be a dedicated flow for a beneficial use, and therefore not “excess.”

p. 4-170 lines 15-17 statement re: volume of water passing Morelos being rare [*sic*] and unimportant for vegetation and wildlife is false. See our comments on the Drop 2 draft EA for documentation of the importance of these flows.

p. 4-170 line 39 why would CBS increase flows by 0.4 mafy? Is this due to incorrect assumption about M&I water?

p. 4-171 line 4 pulse flows every other year – incorrect for same reasons

p. 4-200 lines 15-16 pulse flows every other year- incorrect for same reasons

p. 4-203 lines 3-5 “These benefits were deemed moderate because flows in this reach are currently rare and any additional flow in this reach is assumed to be beneficial.” By what criteria are these benefits deemed moderate rather than major?

p. P-86. Once corrected as noted above, figure P-61 should be labeled as “Flows Below Morelos Diversion Dam.”

IV. Conclusion

Once again, we thank Reclamation for its extensive assistance in developing, modeling, and considering CBS for the DEIS, and ask that Reclamation incorporate our comments as it refines CBS and its environmental and socio-economic analyses for the Final EIS. We welcome the opportunity to meet with Reclamation to discuss these matters further if this would be of assistance in Reclamation’s analysis.

We believe that the current NEPA process represents a significant potential turning point in the history of the Law of the River, one which offers significant opportunities for both water users and environmental values on the River – but which also carries with it significant economic, environmental, and diplomatic risks. The Basin States Alternative, and the Seven States Agreement upon which it is built, represents a significant potential step forward for water management in the Lower Basin; however, in isolation it does not step far enough to ensure the protection of environmental values in the Lower Basin and Mexico and assist the development of an international agreement between the U.S. and Mexico that will be necessary to implement the States’ proposed shortage policy.

Two components of CBS, the expansion of the ICS program to other users in the U.S. and Mexico, and the provision of a voluntary, compensated mechanism for shortage mitigation, are particularly critical in this regard, and we believe the analysis conducted to date strongly bears out the importance of these mechanisms. We strongly urge Reclamation to adopt these elements as a part of the preferred alternative in the Final EIS.

Thank you for your consideration of these comments. We look forward to continuing to work with Reclamation over the coming months as Reclamation moves to prepare its Final EIS and Record of Decision.

Sincerely,

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APR 26 2007

CERTIFIED MAIL REQUESTED

Regional Director
Bureau of Reclamation
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

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:

G0000 (Carlson)

G1580 (CF)

G0200 (Casey)

G6001 (RF)

G6300 (Ramsey)

G6006:BYoung:x2594:wts:04-24-07:R:\Groups\G6000\BOR\Letter to USBR draft EIS
4-24-07.d042407_wts.doc

From: Brianne Emery [brianne.emery@gmail.com]

Sent: Wednesday, March 07, 2007 7:53 PM

To: strategies@lc.usbr.gov

Subject: CO River Interim Guidelines DEIS

Mr. Fulp,

I am writing to express my support of the "Conservation Before Shortage" Alternative for the draft EIS of the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

I feel that this alternative would meet the purpose and need of the project without limiting the recreational opportunities of these lakes and without being economically detrimental. While I understand new legislation would have to be passed to provide funding to implement this project, I feel that the Basin States would be willing to support such an action.

I do however, feel that such an action should be considered for the long term viability of operations and not merely used as "interim guidelines". With the increasing growth in Basin states, it is important that the Bureau of Reclamation plan for not only the near future but for the long term productivity of the Colorado River.

Thank you,

Brianne Emery



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

Cross Media Division (CMD-2)
Federal Activities Office - 75 Hawthorne St., San Francisco, CA 94105

**FACSIMILE
TRANSMITTAL**



TO: Regional Director

Organization: Lower Colorado Region, Bureau of Reclamation, ATTN: BCOO-1000

Subject: Region 9 EPA comments on DEIS Lower Basin Shortage Guidelines

Ph #: 702-293-8500

Fax #: 702-293-8156

FROM: Laura Fujii, Environmental Review Office, Region 9 US EPA

Ph #: 415-972-3852

Fax #: 415-947-8026

E-Mail Address: Fujii.laura@epa.gov

Date Sent: April 30, 2007

Number of pages including cover sheet: 10

Comments: The original signed letter is being sent to you in the mail.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

April 30, 2007

Robert W. Johnson
Regional Director
Lower Colorado Region
Bureau of Reclamation
Attn: BC00-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Subject: Draft Environmental Impact Statement for Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions, Lower Colorado River Basin

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

EPA supports the development of shortage guidelines which will provide specific criteria for reductions in annual water deliveries during low reservoir conditions. The beneficial uses of the Lower Colorado River are diverse, providing vital environmental, economic, and public health benefits for Arizona, California and Nevada (Lower Basin States). Unpredictable, large disruptions in water deliveries or sudden changes in Lake Mead and Lake Powell operations could have significant adverse impacts on these beneficial uses. The draft environmental impact statement (DEIS) makes clear that action is required to address future shortages. All of the action alternatives would reduce the probability of shortages and increase the flexibility to operate the Colorado River water supply system for multiple purposes.

We commend the Bureau of Reclamation (Reclamation) and cooperating agencies for evaluating a range of alternatives that define the trade-offs between different users and benefits, such as water supply, hydropower generation, and recreation. We recognize that Reclamation is convening a workgroup of climate change experts to evaluate the water supply implications of climate change, and we support the consideration of this information in your final decision-making on this project. EPA supports the overall approach as proposed in the Conservation Before Shortage and Basin States alternatives, in particular the concepts of voluntary shortages prior to involuntary shortages and the storage and delivery of conserved system and non-system water (water banking).

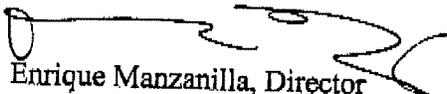
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Based upon our review, we have rated this DEIS, and the proposed action alternatives, Environmental Concerns - Insufficient Information (EC-2) (A *Summary of EPA Rating Definitions* is enclosed) due to concerns with potential adverse effects to beneficial uses and the need for additional information regarding the effects of climate change, banking of conserved water, and monitoring. EPA is concerned that long-term reduction of water quantities and availability due to drought, shortage declarations, climate change, and increasing growth and water demand will result in adverse impacts to in-stream resources (riparian habitat, fish and wildlife), water quality, water supply management flexibility and associated cumulative impacts. Additional information on changing climatic conditions and water management mechanisms will contribute to more systematic water resources planning and further explain key components of proposed actions.

We recommend Reclamation develop a comprehensive, annotated list of water management tools available to Colorado River users to further enhance the Colorado River system flexibility and the benefits of the proposed approach. In that regard, we recommend the final environmental impact statement (FEIS) include a description of, and commitment to, a detailed monitoring, adaptive management, and water banking accounting plan. The shortage guidelines should be based upon the principles of: 1) collaboration, partnerships, and a transparent public involvement process; 2) protection of the environment, human health, and beneficial uses of the Colorado River; 3) minimization of involuntary reductions; and 4) mitigation of direct, indirect, and cumulative impacts. EPA supports system management for small, predictable reductions in annual water use versus large, involuntary disruptions in water supply service and Colorado River flows.

We appreciate Reclamation's February 5, 2007 presentation to EPA on this project and the opportunity to provide comments on the DEIS. We would be glad to set up a conference call to discuss the enclosed recommendations. We look forward to continued participation in this process as more information becomes available. When the FEIS is released for public review, please send two copies to the address above (mail code: CED-2). If you have any questions, please contact me or Laura Fujii, the lead reviewer for this project. Laura can be reached at 415-972-3852 or fujii.laura@epa.gov.

Sincerely,


Enrique Manzanilla, Director
Communities and Ecosystems Division

Enclosure:
Summary of EPA Rating Definitions
Detailed Comments

cc: Jayne Harkins, Assistant Regional Director, Lower Colorado Region, BOR
Rick L. Gold, Regional Director, Upper Colorado Region, BOR
Terrance J. Fulp, Area Manager, Boulder Canyon Operations Office, BOR
Nan Yoder, Project Manager, Boulder Canyon Operations Office, BOR
Randall Peterson, Salt Lake Office, Upper Colorado Region, BOR
California State Water Resources Control Board
US Fish and Wildlife Service
Western Area Power Administration
Regional Tribal Operations Committee

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Conservation and Water Use Efficiency

The Basin States and Conservation Before Shortage alternatives include water management tools which would enhance the management flexibility of the Colorado River system. EPA strongly supports the implementation of these tools to maximize water conservation and water use efficiencies – key components of supply and demand management – if adverse effects on third parties (e.g., downstream users, in-stream beneficial uses) are minor. Innovative and aggressive supply and demand management is essential in assuring a long-term, sustainable balance between available water supplies, demand, and ecosystem and public health. Efforts to improve system flexibility, conservation, and water use efficiencies are even more urgent given the projected growth in the Lower Colorado River Basin, the adverse effects of the multi-year drought, and the potential adverse effects of climate change on scarce water supplies.

Recommendations:

We urge the Bureau of Reclamation (Reclamation) to include a detailed tool kit of supply and demand management measures in an appendix in the Final Environmental Impact Statement (FEIS). This appendix could serve as an extension of any of the action alternatives; further enhancing Colorado River system flexibility and the benefits of the proposed management approach. The list of tools could also serve as a resource for Colorado River water providers (e.g., water districts, irrigation districts) who wish to maximize the effective use of their water supplies. The appendix should describe the full range of tools available to users to improve water quality and reuse, maximize water use efficiencies, balance supply and demand, and avoid and minimize adverse effects to third parties. The description of these tools should include a report of each tool's potential adverse third party effects, its ability to enhance water management flexibility, mitigation opportunities, and the most appropriate entities to use the tool.

As recommended by the Water Science and Technology Board (National Academy of Sciences)¹, we urge Reclamation to work with Colorado River users to conduct a comprehensive, action-oriented study of Colorado River region urban and agricultural water practices and changing patterns of demand. If integrated with the proposed shortage guidelines, this study could provide a more systematic basis for water resources planning across the region. We recommend the FEIS address the need for this study and how and when the study could be conducted.

¹ Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability (2007), p. 9. Water Science and Technology Board, National Academy of Sciences, 500 Fifth St. N.W., Washington, D.C. 20001.

Efficient water use can be influenced by development, infrastructure, and drinking water policies. We recommend the FEIS explore the linkages between these different factors and describe potential mechanisms to align them in order to better protect water resources. We recommend the FEIS provide a short discussion of who could best implement the identified mechanisms. The following reports may be of assistance as a starting point for your evaluation:

- Growing Toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies. EPA Publication 230-R-06-001, EPA National Service Center for Environmental Publications, (800) 490-9198 or nscep@bps-lmit.com.
- Protecting Water Resources with Higher-Density Development. EPA publication 231-R-06-001. EPA National Service Center for Environmental Publications, (800) 490-9198 or nscep@bps-lmit.com.

We recommend the Affected Environment chapter of the FEIS describe the current efforts to increase conservation, water use efficiencies, water supplies, and management flexibility for the Colorado River system. For instance, provide a summary of Arizona's Drought Management Plan, efforts by California to ensure adequate water supplies for southern California, and the conservation and use measures being taken by the Southern Nevada Water Authority (SNWA).

Storage and Delivery of Conserved Water (Water Banking in Lake Mead)

The DEIS analysis clearly demonstrates the benefits of the storage and delivery of conserved water (water banking). These benefits include the reduced probability of shortages, increased Colorado River management flexibility, and increased probability for flows below Morelos Diversion Dam, under some alternatives, that could benefit the complex riparian ecosystem of the Limitrophe Reach (Northern International Boundary to the Southern International Boundary) (p. ES-14, p. 4-76) and Colorado River Delta.

Recommendations:

The Basin States alternative limits the use of water banking in Lake Mead to the Lower Basin States while the Conservation Before Shortage alternative allows other entities, including Mexico, to utilize this water bank. The allowable total amount of stored conserved water also varies between alternatives. In order to fully realize management flexibility through water banking, EPA recommends the selected alternative maximize the use of water banking by allowing a broad range of users and ample storage capacity for conserved water.

The Conservation Before Shortage alternative includes the concept of compensated voluntary water reductions, triggered by specific Lake Mead elevations and financed through a compensation program. Under this concept willing Lower Basin users, including Mexico, would be paid to voluntarily and temporarily reduce their water use (p. 4-82). To facilitate regional efforts to optimize water use, we recommend the FEIS provide additional information on

Lake Mead elevation triggers, funding mechanisms, and management of the compensated voluntary water reduction program.

We recommend the FEIS include a detailed description of the accounting procedures and conserved water validation process for the storage and delivery of conserved water in Lake Mead.

Monitoring and Adaptive Management Plan

The DEIS analysis depends heavily on probabilistic models based upon a number of assumptions regarding precipitation, climate, water supply depletion rates, water supply policy and trends, and conservation programs. We recommend that existing conditions be monitored and model assumptions validated.

Recommendation:

Given the assumptions and uncertainties surrounding probabilistic models, we recommend Reclamation develop and commit to a detailed monitoring and adaptive management plan as part of the FEIS. We recommend the plan include details on what, who, and when to monitor; the process used to ensure monitoring results feed into the management decision process, and how monitoring can be used to help verify model assumptions.

The ability to monitor the hydrology of the Colorado River is provided by the U.S. Geological Survey's Colorado River Streamflow Gaging Network. As stated by the Water Science and Technology Board,² financial support for these stream gaging stations has been inconsistent and limited in recent years. The loss of stations with long periods of record (greater than 30 years) is of concern because they provide key data for understanding Colorado River hydrology and water quality (e.g., downstream perchlorate contamination, temperatures, sedimentation) and thus for Colorado River water management.

Recommendation:

We recommend the FEIS describe how Reclamation and other users of the Colorado River can ensure resources are available to maintain and expand the Colorado River Streamflow Gaging Network.

Climate Change

A number of studies specific to the Colorado River Basin have indicated the potential for significant environmental impacts as a result of changing temperatures and precipitation.³ While we commend the inclusion of the hydrologic sensitivity analysis to determine model results with a wider range of hydrologic variability (Appendix N), we believe that

² Water Science and Technology Board, pps 4-5.

³ For example, Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability (2007); The Colorado River Basin and Climatic Change, Linda L. Nash & Peter H. Gleick (1993) (EPA Publication 230-R-93-009).

a more extensive discussion of climate change and its potential effects on the proposed action would better serve long-term, Basin-wide water management planning.

Recommendation:

We recommend the FEIS include a separate discussion of climate change and its potential effects on the proposed action and the action's impacts. We recommend this discussion provide a short summary of climate change studies specific to the Colorado River Basin, including their findings on potential environmental and water supply effects and their recommendations for addressing these effects. Potential effects to examine include the incremental effects on shortage allocations and land use. For example, if there is a projected 10-20% reduction in precipitation for the Colorado River⁴, we would recommend the FEIS describe the effect on potential shortages, whether California would experience a higher probability of shortages, and whether adverse land use effects, in addition to temporary agricultural fallowing, could occur under a shortage determination.

Tribal Impacts

The DEIS provides a limited description of the Cocopah Indian Reservation (p. 3-84), the Limitrophe Reach, and potential cultural resources in this region. Twelve miles of the Limitrophe Reach lie within the Cocopah Indian Nation. This reach includes a complex riparian ecosystem that supports a wide variety of birds and wildlife. The multi-agency effort, in cooperation with the Cocopah Indian Nation, to restore 350 acres of this habitat signifies the ecological importance of the Limitrophe Reach. We also note that the Cocopah Indian Nation and their cultural interests extend down to the Colorado River Delta.

Recommendations:

We recommend the FEIS include a more detailed description of the ecological resources of the Limitrophe Reach and of cultural resources below Imperial Dam to the Southern International Boundary. Potential impacts to these resources should be fully evaluated and described in the FEIS. We recommend the FEIS include a description of the Cocopah Indian Nation, including a description of their tribal interests and concerns down to the Colorado River Delta and potential effects on these tribal interests.

Power Generation

Although the action alternatives would have minor impacts on the economic value of electrical power generation at Glen Canyon and Hoover Dams, the total loss of electrical power generation capabilities would have a substantial effect on the Basin Power Funds which rely on power revenues (pps. 4-230, 4-241). These funds provide key support for Colorado River environmental programs, the Colorado River Salinity Control Program, and projects to address Tribal water right settlements.

⁴ Nash and Gleick, p. ix.

Recommendation:

EPA is concerned with the potential reduction of the Basin Power Funds. We recommend the FEIS describe potential mitigation measures that could be included in the selected alternative to offset or replace these revenue reductions.

>>> Melanie Florence <smskflor@yahoo.com> 04/27/07 12:42PM >>>

Dear Bureau of Reclamation,

I live in St. George, Utah, a place that will be affected by future water policies on the Colorado River. I have read the four alternatives and feel like the best one is the conservation before shortage initiative.

St. George right now uses a lot of water--about 300 gallons per person per day--and is pursuing building a Lake Powell to get even more. Most of the water is used on house lawns and golf courses--even during the summer when the snowbirds have left for cooler temperatures. Sprinklers all over town go off during the hot times of the day, in strong winds, and many areas overwatered. Even the city does not appear to be curbing water conservation in parks, school grounds, etc. Although St. George and Washington County in general has a desert climate, very few homes and businesses are xeriscaped in the front yards.

I feel like the only way to force the city and county to look toward future water shortages and encourage water conservation practices now is by imposing it from the outside somehow. I hope the conservation before shortage alternative will do that.

Sincerely,
Melanie Florence



Fort Mojave Indian Tribe

NORA McDOWELL - Chairperson
SHAN LEWIS - Vice-Chairman
DEBBIE JACKSON - Secretary
COLLEEN GARCIA - Member • MARTHA McCORD - Member
NICHOLE GARCIA - Member • APRIL GARCIA - Member
500 Merriman Avenue • Needles, CA 92363
(760) 629-4591 • FAX (760) 629-5767

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April 2, 2007

Terrance Fulp, PhD
US Bureau of Reclamation
Lower Colorado River Region
PO Box 61470
Boulder City, Nevada 89006-1470

Dear Dr Fulp:

First, we wish to complement the Bureau of Reclamation on its efforts to produce the *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* and are impressed by the detail of its contents.

We are disappointed however at the lack of consultation with the Fort Mojave Indian Tribe. Certainly there have been mass meetings often including tribes as far away as the Rio Grande and we have attended a few of these but this hardly constitutes consultation in the usual sense of the word. The Tribe is directly affected by lower flows in the Colorado River as few others are and we would have preferred that, after real consultation, this would have been addressed in the D.E.I.S.

It has long been the position of the Fort Mojave Indian Tribe that, if shortages are inevitable and they apparently are, it is best to start reductions earlier rather than later. The Tribe feels that there are those far more qualified to do the detailed River modeling than we are but, as policy, reductions should begin when reservoir storage is at about 50% of capacity and scale up fairly rapidly to avoid a run of the river situation with empty reservoirs.

It is also the position of the Tribe that the free market is a better way of dealing with shortage than involuntary reductions. We like the "Intentionally Created Surplus" provisions in the Basin States Alternative but a more flexible method of nomination would be more useful to the smaller entitlement holder. Using the Tribe as an example, We grow 4-5,000 acres of cotton. This is not the total of a number of smaller farms, it is the production of our tribal farm and is 100% controlled by the Tribe.

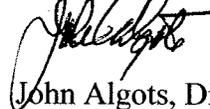
There are good business reasons why we need to be in the cotton business but our climatic conditions are difficult with a late spring an early fall and a very hot summer. A delayed planting usually results in disappointing profit and nomination of the 20,000 acre feet of water we would use to grow the crop would be a desirable option but it needs to be done quickly in April, not the September before.

The term water delivery is often used in these discussions. We would like to point out that the Bureau of Reclamation does not deliver water to the Fort Mojave Indian Tribe. The Bureau delivers water to others and it passes through our Reservation and we have the right to take some of it, if we can, but there is no effort to deliver water. This is the Tribe's main concern. Senior water rights are useless if we cannot reach the water, a fact surely not lost on our friends who may be junior in right but have a nice federally built structure to draw from.

The Tribe hopes for and expects the help and cooperation of the Bureau of Reclamation and other concerned agencies in making the intake modifications necessary to deal with a diminished River.

The Fort Mojave Indian Tribe appreciates the opportunity to offer these comments.

Sincerely

A handwritten signature in black ink, appearing to read "John Algots", written in a cursive style.

John Algots, Director

Department of Physical Resources

>>> <emiwegner@aol.com> 04/27/07 04:03PM >>>

Dear BOR - please find attached a copy of comments on the Draft EIS on the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinate Operations for Lake Powell and Lake Mead. Can you please send me a return e-mail that indicates that you have received these comments? Thank you.

David L. Wegner
2609 Columbine Avenue
Durango, CO 81301

Comments on Bureau of Reclamation Draft EIS Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Prepared by: David L. Wegner

Prepared for: Glen Canyon Institute – 2609 Columbine Avenue, Durango, CO 81301

April 27, 2007

I. General Comments

The Draft EIS is the latest addition of water management related documents produced by the Bureau of Reclamation to address issues related the distribution of water from the Colorado River. This document and resulting management direction will add to the existing tomes on managing surplus water, the Long-Term Operating Criteria and the coordinated management of water between the upper and lower Colorado River Basin States. No one expects exciting reading or innovative thought, but the lack of addressing current state of climate and hydrology is troubling.

The Bureau is grossly missing the opportunity and responsibility to address potential future conditions for water management based on scientific advice from experts in water management and climate. Recent reports that point towards a much different hydrologic condition in the Colorado River Basin include:

National Research Council – February 2007 – reporting that future droughts will likely be more extreme and for longer periods of time.

Intergovernmental Panel on Climate Change – Climate Change 2007 – stating that droughts in the Southwest will be more extreme and calls on governments to begin planning now for reduced water.

Recent Science article reporting the result of running 19 climate computer models and their indication of a worsening drying trend for the Southwest.

Tree-ring analysis clearly shows that climate and hydrology in the Colorado River basin are linked and that historically there have been long and extreme drought events.

To not admit that the system is changing quickly nor addressing appropriate water management contingencies is akin to the Corp of Engineers telling the people of New Orleans to not worry, the dikes are in great shape. Reclamation is better than that but unfortunately this document does not provide much hope, direction or acknowledgement of the fact that SW hydrology is changing.

Recent climate documentation is consistent in concluding that the future for the Colorado River Basin is for far less water. The analytical approach used in the DRAFT EIS has a fatal flaw in that it assumes, based on a very short historic data set, that change will balance out and therefore it is business as usual for the Bureau of Reclamation.

Climate change impacts will occur far sooner than the 2026 timeline outlined in the Draft EIS. The Colorado River Basin is entering a drought, one that continues the trend since water year 2000 (except for 2005) of below average water conditions. In the April 2007 announcement from the Upper Colorado River Basin Bureau of Reclamation lead hydrologist, *Water year 2007 is shaping up to be yet another year with below average inflow. The current projection for spring runoff into Lake Powell is only 50 percent of average. ... Reservoir storage in Lake Powell and Lake Mead is currently 48 and 54 percent of capacity.* This sobering monthly report from the Bureau of Reclamation clearly identifies that conditions in the Colorado River Basin are changing quickly. It would stand to reason then that the Bureau of Reclamation should look at a much different hydrologic future than the one that they are using as the baseline for projecting future conditions.

Weather conditions for the Colorado River Basin and the Southwest are changing at a rate far faster than the historic record that the Bureau of Reclamation is using indicates. The Southwest has had significantly below-average rainfall since 1999. The prospect of a drier Southwest is clear and should not be ignored and to do so violates a basic trust that the citizens of this country have regarding government management of a precious resource.

II. Comments Related to Assumptions Utilized

The assumptions utilized in the DRAFT EIS are constrained by their lack of addressing some basic information. The entire premise of the DEIS is driven by the set of inflow conditions. The Bureau uses a very limited (1906-2004) historical data set of actual flows to define the input supply parameters for the model and analysis. Peer reviewed literature and a stable of climate scientists have pointed out that the historical parameters and data are not a scientifically credible way to address the future.

Historic Hydrology Utilized – Based on measured flows from 1906 – 2004.

This range of flows does not cover the potential future lower flow conditions that will be found in the Colorado River Basin.

CRSS Model – limited application to addressing extreme conditions. Was developed and applied under a narrow set of operating constraints and inputs.

Glen Canyon Dam Elevation Ranges – does not address the concerns over water movement once the elevation of Lake Powell drops below minimum power pool. At that point control of releases will occur only through the river outlet tubes.

Upper Basin Depletions – uses a figure of 5.4 MAF when in fact the Upper Basin is proclaiming to want to deplete 6.0 MAF. This difference amounts to 3 MAF by the year 2030.

Input Volumes – the Bureau of Reclamation uses historic hydrology data (1906 to 2004) and assumes that 15 MAF will be available. Scientifically peer reviewed analysis performed and reported by the National Academy of Sciences indicate that at BEST CASE, no more 14.5 MAF should be used, and more likely the actual volume should be closer to 13.5 MAF. If everything else remains the same,

the Bureau of Reclamation's assumption that the flow will be 500,000 acre feet higher than the long-term mean amounts to 5 MAF in ten years and 12.5 MAF in 25 years.

Impact due to climate change. On a best case approach we may see as little as 5% reduction in flow volumes, this would amount to an error in the Bureau's input volume of 7.5 MAF in ten years and 18 MAF in 25 years. If the worse case of 40% reduction in flow occurs this would lead to even larger error in the amount of input volume to the system.

Ongoing Research – no mention is made of the impact of the proposed operational impacts as related to the ongoing Grand Canyon Monitoring Program and its proposed use of periodic flow releases to protect the resources of the Grand Canyon. A slight mention is made of the Lower Colorado River Multispecies Conservation Program but only in reference to its ongoing presence. No discussion occurs as to how changing the operational patterns will be factored into these important and ESA driven efforts.

Glen Canyon dam and Hoover dam operational constraints. Limited discussion occurs as to the general management philosophy regarding the day to day operational management of the two dams. Specific discussion as to critical reservoir elevation limits (power pool, cavitation of generators from air entrainment, use and limits of river outlet tubes, and operational constraints) is not provided in a single section in the document.

Impacts to Basin Fund from reduced Lake Powell levels – a thorough discussion needs to exist to what will happen to the revenue flow to the Basin Fund as the elevation of Lake Powell drops and power generation is diminished. What will this do to Westerns existing power contract rates (expect increases?), capacity and energy amounts, and the Basin Fund which supports a multitude of other water user and Bureau of Reclamation projects (i.e. subsidizes).

Impacts to Hydroelectric production. Discussion is limited on the impacts that will likely occur to the financial balance of Western Area Power Administration if hydropower is seriously constrained due to low reservoir elevation levels at Lake Powell. While the report writers may not want to address the issues, it is important that the potential worse case scenario of limited water available for hydropower generation. What happens to the existing balance of payments for the CRSP? What impacts occur to basin rate payers?

Identification of Priorities. It would seem logical that a clear process flow chart should be identified in a SHORTAGE document that identifies what the process would be in regards to meeting the priorities of water delivery. It would seem pertinent that this process should be articulated and laid out so that there is a clear identification of process and procedure.

III. Comments on Five Alternatives

The Bureau of Reclamation identifies five alternatives that they have assessed in the DEIS. These five evolved through a series of scoping and coordination meetings that the Bureau had with individuals, groups, and the seven Colorado River Basin States. The five alternatives include:

No action – business as usual

Basin States
Conservation Before Shortage
Water Supply
Reservoir Storage

All five alternatives are addressed assuming the same management philosophy that has existed since the Long-Range Operating Criteria were agreed to. This philosophy assumes that Lake Powell and Lake Mead are operated as one unit, balancing releases based on the Law of the River constraints and a limited input supply data set.

Of the five alternatives, based on the historic set of assumptions, the most logical alternative is *Conservation Before Storage* as it utilizes set elevation targets in Lake Mead to direct specific water management actions.

However, based on the assumptions identified in Section I and the change that will occur in available water supply in the Colorado River Basin, we believe that an additional alternative should be evaluated that includes the following:

Shifting Storage from Lake Powell to Lake Mead. Under a lower flow volume scenario both Powell and Mead cannot and will not ever fill again under the historic hydrological rules articulated by Reclamation.

Storing water in Lake Mead will provide benefits to users of the Colorado River Basin by:

- Reducing evaporation. Maintaining one large reservoir instead of two will reduce the amount of water that evaporates off of the reservoir surface. Estimated water savings of 500,000 acre feet per year.
- Reduced loss of water migrating into the sandstone of Lake Powell basin. The granitic rock of Lake Mead basin does not draw as much water into the substrata. Result = increase in water.
- Maintain reservoir elevations of Lake Mead to continue electrical generation.
- Provide more normal flow regime in the Grand Canyon

Credit Upper Basin states with the amount of water flowing past the gaging station at Lees Ferry. We support the development of intentionally created surplus (Conservation Before Shortage Alternative) as a viable way to aggressively address water conservation with incentives.

Implement aggressive water conservation campaign throughout the Colorado River Basin.

IV. Comments on Methodology Used to Estimate a Range of Daily Glen Canyon Dam Releases

Only six annual Lake Powell release volumes were considered (7.00, 7.48, 8.23, 9.00, 9.50 mafy). If climate scientists are correct, release volumes may approach 5 million acre feet per year. It would seem prudent to at least run scenarios that reflect the worse case conditions

Approach does not take into consideration the historical drought regimes that have historically occurred within the Colorado River Basin.

The CRSS methodology assumptions and input factors are limited resulting in a narrow set of comparison options.

V. Comments on Coordinated Operations on Lake Powell and Lake Mead

Lake Powell is the input for the majority of water to be distributed in the Lower Colorado River Basin.

Glen Canyon Dam operations are driven by a hierarchy of priorities, beginning with meeting the Colorado River Compact and ending with supporting recreation on the reservoir. Critical to upper basin water management is keeping the generators at Glen Canyon Dam spinning so that they generate electricity and revenue for the Upper Basin Fund and the support of other Bureau of Reclamation projects. The analysis provided by the Bureau of Reclamation indicated that they do not assume that Powell has a very high likelihood of ever dropping below the minimum power pool elevation in Lake Powell. This is a gross underestimation of the likely impacts to be felt as result of lower inflow volumes to Powell due to climate change.

Colorado River Basin – System Management. Glen Canyon and Hoover dams are the largest facilities in the river basin, however management of a reduced supply of water and increasing environmental concerns demand that a system wide EIS be developed to address and integrate the large range of issues and constraints that exist in the developed Colorado River system.

VI. Water Quality and Environmental Impacts

Affected Environment – Water Quality

- Temperature of Releases from Glen Canyon Dam do not take into account the full spectrum of thermal conditions that may exist as the reservoir level drops and seasonal limnology conditions change. It is highly likely that seasonal spikes in temperature will occur as warmer water in the reservoir is intercepted by the intakes (elevation 3470). No mention is made of the potential Temperature Control Device for Glen Canyon Dam that the Upper Colorado Region is currently reviewing.
- Dissolved Oxygen – In September 2006 and March of 2007 hypoxia events (release of low dissolved oxygen water) occurred at Glen Canyon Dam. These types of events will continue to occur at Glen Canyon Dam as the reservoir levels diminish and limnological conditions change. The DEIS indicates that this is an abnormal event and not likely to continue to occur. This is wrong – the probability will continue with potentially large impacts on the downstream environment.

Affected Environment – Sediment

- Lower reservoir levels in both Powell and Mead will expose significant sediment deposits in the delta areas. Remobilization of these sediments and the chemical residues trapped within them may pose a considerable risk to the aquatic environment in the reservoirs. Additional modeling under more

realistic reservoir conditions is required to predict future impacts and movement of sediment.

- Loss of storage capacity – no discussion occurs as to the reduction in reservoir storage capacity resulting from the input of sediment into the basins. No reference is made to the ongoing reservoir sedimentation studies at neither Powell nor the historic work completed by the Denver Technical Service Center on sedimentation rates. The Denver Technical Service Center also recently completed an assessment of bypassing sediment around Glen Canyon Dam. How will this work be integrated into the operational mix?

Affected Environment – Special Status Species

- Humpback Chub – no discussion on the impacts of variable flow and water quality conditions and their affects on the listed *gila cypha* (Humpback chub) in the Grand Canyon. The Upper Colorado River Basin is currently engaged in a lawsuit over the impacts of flow releases on the Grand Canyon environment and the listed species.

Affected Environment – Non-Native Species

- Zebra and quagga mussle population expansion – no mention is made of the potential population impacts of zebra and quagga mussels in the Colorado River. The lack of any discussion of these species and their potential impact on the water delivery system of the Colorado River is curious. At least referencing work completed by the USGS would seem worthy.
- Striped Bass from Lake Mead - will there be an expansion of striped bass further into the Grand Canyon if the water temperatures warm due to modified Glen Canyon Dam operations and Lake Powell limnological conditions?

Affected Environment – Colorado River Delta and Mexico. While it is an interesting line of logic of why it is not within the context of the Bureau to acknowledge that a Colorado River delta exists, it would seem prudent that at least a short discussion on what the five alternatives might mean to the water flows would be appropriate. Also no discussion is included about the potential for the Yuma Desalinization Plant coming on-line. This will affect the water quality and delivery of water to Mexico. It should be mentioned.

Affected Environment – Recreation. Lower reservoir levels are exposing historic rapids and creating new rapids in the inflow areas of Powell and Mead. How will these river hazards be managed under the new lower elevation reservoir regime?

VII. Recommendations

Redo the hydrologic projects based on realistic future hydrologic conditions
Include an alternative that looks at managing the Colorado River reservoirs to focus on filling Lake Mead first and reducing evaporation and loss due to infiltration.

Recognize the range of actual hydrologic supply that is likely in the Colorado River Basin.

Include impacts to the Colorado River Delta and the Grand Canyon

Use the DEIS and NEPA process to look at a range of basin wide conservation measures

Recommend the development of a basin wide Colorado River EIS to address the integrated management of the entire plumbing system of the Colorado River. Implement a clear and graphical identification of the process that will be followed should shortage occur and water deliveries are constrained. What process will be followed? How will priorities be defined? What will get shorted first – environment, junior holders, and tribes? Include a complete list of water holders and their priorities. Put in a table and chart so that we can understand who will get water when shortages begin to occur.



April 30, 2007

Via Facsimile 702-293-8156, 2 Pages

Regional Director
Lower Colorado Region
US Bureau of Reclamation
Attn: BCOO-1000
PO Box 61470
Boulder City, NV 89006

RE: Comments Regarding the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement (DEIS)

Dear Regional Director:

The Town of Gilbert, Arizona appreciates the opportunity to comment on the DEIS, and hereby submits its comments. Gilbert understands that the Arizona Department of Water Resources and the Arizona Municipal Water Users Association (AMWUA), of which Gilbert is a member, will also be providing comments on this issue and Gilbert supports those comments.

Gilbert has been the fastest growing city of over 100,000 people for the last several years, with a current population reaching 200,000, who rely on Gilbert to provide safe, reliable drinking water supplies. The Colorado River and Central Arizona Project (CAP) water supplies are key components of the Town's long-term water resources. Twenty-five percent of Gilbert's water supply is comprised of various types of Colorado River and Central Arizona Project water.

Gilbert has expended significant monies to manage our water resources, including development of redundant groundwater supplies, the policy of utilizing 100% of our reclaimed water through reuse and recharge, and the adoption of a Water Shortage Management Plan. The preferred alternative that is selected for implementation by the Bureau is of critical interest to the Town of Gilbert.

Gilbert Supports the Basin States Alternative as the Preferred Alternative

Gilbert supports selection of the Basin States Alternative as the preferred alternative in the final environmental impact statement, which will provide Gilbert with the certainty of the continuation of its CAP and Colorado River supplies. Gilbert also supports implementation of the Basin States Alternative through the final Record of Decision (ROD). This alternative is a compromise acceptable to each of the seven Colorado River Basin States. In selecting the preferred alternative and finalizing the ROD, the Secretary of the Interior should recognize the value of this unique compromise.

Furthermore, the Basin States Alternative does not require any additional statutory authorization and is the only alternative that can be implemented immediately after the Secretary issues the final ROD. Implementation of the other alternatives, particularly the Conservation Before Shortage and the Reservoir Storage Alternatives, would require substantive changes to the Law of the River.

Gilbert urges the Secretary to choose the Basin States Alternative as the preferred alternative in the Final EIS. We also urge the Secretary to adopt a ROD that includes the guidelines and criteria necessary to implement the Basin States Alternative in a manner consistent with the carefully negotiated compromise agreements developed among the seven basin states.

We appreciate the opportunity to comment on the DEIS.

Sincerely,



Lonnie Frost
Public Works Director

cc: Herb Guenther, Director, Arizona Department of Water Resources



Environmental Resources Department

Fax Cover Sheet

DATE: Monday, April 30, 2007

TO: Regional Director
U.S. Bureau of Reclamation, Lower Colorado Region

FAX #: (702) 293-8156

FROM: Stephen Rot, Environmental Program Manager

SUBJECT: City of Glendale, Arizona Comments regarding the Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

PAGES: 3 (including cover)

City of Glendale
Environmental Resources Department
5850 W. Glendale Avenue
Glendale, AZ. 85301
TEL: (623) 930-2580
FAX: (623) 931-5730



April 30, 2007

Regional Director
Attn: BCOO-1000
Lower Colorado Region
US Bureau of Reclamation
PO Box 61470
Boulder City, NV 89006

Via Fax (702) 293-8156 and Regular Mail

Re: Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Dear Regional Director:

The City of Glendale (City) appreciates the opportunity to provide the following comments on, the Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (DEIS). As a member of the Arizona Municipal Water Users Association (AMWUA), the City endorses and supports the comments submitted by AMWUA regarding the DEIS. Additionally, the City supports the comments submitted by the Arizona Department of Water Resources on behalf of the State of Arizona.

The City of Glendale provides water service to over 244,000 people, and relies significantly upon Colorado River water supplies, delivered via the Central Arizona Project (CAP) to meet its water demand. The City's CAP water supplies include subcontracts for Municipal and Industrial priority water, leases for Indian priority water, and some non-Indian agricultural priority CAP water. Together these Colorado River supplies provide over 36% of the City's annual water demand. Because of its reliance upon CAP water supplies of differing priority, the City must effectively consider its exposure during a declared Colorado River shortage. As such, and in light of the fact that the CAP is the largest junior priority user under the Law of the River, the City is very interested in the outcome of the shortage criteria and coordinated reservoir operations process.

The junior priority of the CAP results in an increased risk to Arizona water users when a shortage declaration is made. It is imperative that the selection and implementation of a preferred alternative fully consider and minimize those risks. The selection and implementation strategies of a preferred alternative should also consider existing statutory authority and the Law of the River. The Basin States Alternative represents a unique collaboration effort on the part of each of the seven Colorado River Basin States, and is the only alternative that meets these criteria. Therefore, the City supports the selection of the Basin States Alternative as the preferred alternative in the final

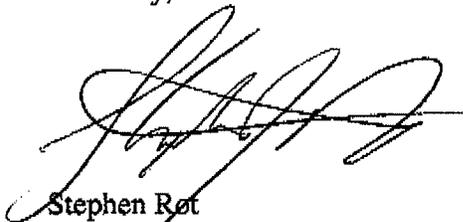
environmental impact statement, and implementation of the Basin States Alternative through the record of decision.

Additionally, the City of Glendale is concerned that the DEIS does not fully consider the economic impacts of a Lower Basin shortage on municipal water providers in Central Arizona. The DEIS incorrectly presumes that there will be no economic impacts on CAP water users, and effectively penalizes those users for their advanced planning efforts and activities. The City of Glendale has expended significant sums of money in developing a diverse water resources portfolio; implementing and maintaining a strong water conservation program; designing and constructing integrated infrastructure systems to efficiently utilize those diverse supplies; underground storage and recovery systems; and reuse of reclaimed water. In spite of the City's advance planning efforts, and the City's integrated drought management plan, there will be additional economic impacts associated with Colorado River supply shortages. Complete analysis of these impacts should be incorporated into the final environmental impact statement.

Economic considerations in the DEIS are further exaggerated by the fact that the DEIS only analyzes impacts relating to shortages in a single year. Cumulative shortage impact analyses should be incorporated into the final environmental impact statement.

Again, the City of Glendale appreciates the opportunity to provide comments on the DEIS.

Sincerely,



Stephen Rot
Environmental Program Manager-Water Resources

Cc: Herb Guenther, Director, Arizona Department of Water Resources

Comment 2:

The study is based upon the assumption that the Upper Basin States will release 8.23 million acre-feet per year in perpetuity. This assumption appears to be based upon the projected future use curve provided by the Upper Basin States seven years ago (Appendix C). This assumption is a fundamental assumption to the entire model. However, this assumption has two difficulties.

First, the development pattern shown in Appendix C is not realistic in light of historic data (attached as a graph). It overstates the water use in the near years and significantly understates the use in the more distant years.

The second difficulty is that the Upper Basin States are not legally required to release 8.23 million acre-feet per year. The model would be useful if, instead of assuming the release of 8.23 million acre-feet per year, it used the Colorado Compact scenario as interpreted by the Upper Basin States. Specifically, in the Colorado Compact scenario, the Upper Basin States only releases 75 million acre-feet every 10 years. Also, the sensitivity studies provided (Appendix N) relate solely to hydrologic assumptions, without regard to examining the assumptions relating to human activities. The assumed human actions are likely to greatly distort the answers and need to be considered.

Take for example the year 2026, the Basin States option show shortages of 400,000 plus acre-feet 35 percent of the time. If the Upper Basins' releases were cut by 750,000 acre-feet, then those shortages (instead of being 400,000 plus acre-foot shortages) would be 1,150,000 plus acre-foot shortages. By using this assumption, it has a tremendous impact on the Gila River Indian Community. The Central Arizona Project water, which constitutes a large part of the Community's Settlement for its Winters' Rights, would have the net CAP supply (after leases are met) go from the 224,300 acre-foot full supply to zero acre-feet. Further, in the years when normal conditions are projected, which is 27 percent of the time, the water supply would drop to approximately 37,500 acre-feet or roughly 15 percent of the allocation.

It appears that the shortages could be much greater and possibly longer with any of the alternatives if the Upper Basin States do not agree with the assumption that 8.23 million acre-feet will continue to be released to the Lower Basin States and Mexico. There could be significant impacts based on release of 7.5 million acre feet. Mexico's share of the shortages would be increased from 16.67% to 20%. All of the alternatives could be significantly impacted with these differences and/or Mexico or the Upper Basin States Agreement.

Comment 3:

The computer models are based upon the assumption that each of the alternatives being evaluated stops in 2027. The no-action alternative is evaluated for the rest of the period (page 4-3, lines 33-34). Thus, when statistical analyses are done, only 18¹ years represent the data concerning the alternatives being considered. The remaining 34 years are based upon a common alternative. In many cases, the data presented provide probabilities of this aggregate sample,

¹ 2008-2026= 18 years.

making the impact of the alternative being evaluated a minor component of the aggregate data being presented.

The Community would recommend that all of the alternatives be modeled through the full period rather than the 2026 period. The irrigation delivery system that will deliver Colorado River water via the Central Arizona Project on the Community is scheduled for completion in 2029. By the time the system is completed, allowing for full delivery and benefit of the Arizona Water Settlements Act of 2004, there are only three years left on the guidelines and the modeling does not address what might then be the Preferred Alternative for the balance of the modeling period.

This type of modeling is highly misleading. Either data showing the impacts through 2026 should be provided or the various alternatives should be continued for the duration of the model. The Community requests that the data be provided or that alternatives continued for the duration of the model.

Comment 4:

The terms of the Mexican Treaty only provide that there will be sharing of shortages. It is inconsistent and probably impracticable to assume that Mexico takes its share of the shortages based solely on the Lower Basin supplies while, at the same time, assuming that the Upper Basin States are expected to share in the shortage. A more likely assumption is that Mexico accepts its pro-rata share of all waters in the Colorado River, which would increase the portion of the supply shorted to Nevada and the Central Arizona Project. As commented with regard to the Upper Basin assumptions, there has been no sensitivity study made concerning the human/legal impacts. The model merely assumes that Mexico shares in the shortages on the Colorado River.

Comment 5:

In Appendix P, it is indicated that various data will be presented, specifically including a section on the water delivery sections. However, the table of contents does not show any such section and, in scrolling through the Appendix P, does not show any such section.

Comment 6:

At paragraph 4.15.8, the EIS concludes that there is no significant impact on Indian Trust assets. However, the EIS does not adequately address the impacts on CAP supplies to the Central Arizona Tribes, specifically including the Gila River Indian Reservation.

Comment 7:

Many Central Arizona Project contracts exist with Tribes for delivery of water. The EIS does not address those contracts. The EIS does not adequately address those contracts with a discussion of BOR's fiduciary duty to protect Tribal water rights.

Comment 8:

Specific comment on the Conservation Alternative: While the Community does not object to the concept of conservation, if the water is going to be maintained in the Lower Colorado River Dams, then the release of that water should be restricted to times of normal or surplus supply. The Community understands that the modeling is based upon this assumption. This assumption is critical to the operation of the conservation before storage method and must be considered in

an integral matter with that alternative. If diversions are permitted to occur at the desire of the beneficiary, *i.e.*, environmental interests, then it is highly likely that additional releases will occur at exactly the same time and will exacerbate any shortages that occur to the users. This will create a much more erratic supply than would otherwise exist.

Comment 9:

Specific comment on the Water Supply Alternative: While it provides short-term supplies, it fails to recognize or prepare for the time when shortages will start to occur; such that, by 2026, shortages could occur of a substantial magnitude. It is highly beneficial to users and environmental activities to provide a relatively constant and dependable supply for natural and human use.

The Gila River Indian Community currently receives a highly erratic supply from the Gila River. Even with substantial conservation capacity in Coolidge Dam, there is dramatic variability from year to year in the water supply. The Community has learned from bitter experience how this variability can dramatically impact the ability of its members to farm and maintain their farmland. This can lead to great hardship for the members and government of the Gila River Indian Community.

Comment 10:

Specific comment on the Reservoir Storage Alternative: While the Community believes in the concept of preserving the water to create as stable a supply as possible, it appears from Tables 4.4-5, 6, and 7, that this option reaches too far towards that goal. Severe shortages over 600,000 acre-feet become highly prevalent very early, yet it appears that no such restrictions are needed for the future.

Comment 11:

Specific comment on the Basin States Alternative: In the worst case scenario, the magnitude of the shortages here are less severe than in the Reservoir Shortage Alternative. The water supply alternative, as presented, clearly indicates this is simply borrowing against the future--since dramatic shortages are probable beginning in 2027, when the criteria are revised. Long-term sustainability is probably one of the most critical interests to the Community.

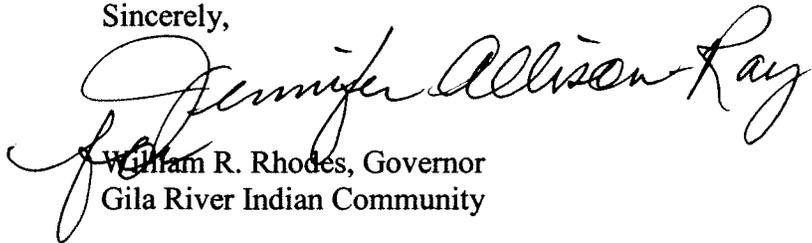
The Community requests that the Bureau of Reclamation provide the Community with modeling of the 75 million in any consecutive 10-year period to allow the Community to evaluate its risks *vis a vis* the highly contentious issue of the required releases by the Upper Basin States.

Comment 12:

The Gila River Indian Community will be significantly impacted, as will all of the Central Arizona Tribes that receive their allocations through the Central Arizona Project. All of the alternatives, other than the No-Action Alternative, will extend a modified ISG through 2026. This provision allows other entities to utilize "surplus" Colorado River water while all of the Central Arizona Tribes and the five Colorado River Tribes are tied to consumptive use or take or lose deliveries.

If there are any questions regarding this letter, please contact Ann Marie Chischilly at the Office of Water Rights at 520-796-1344x3.

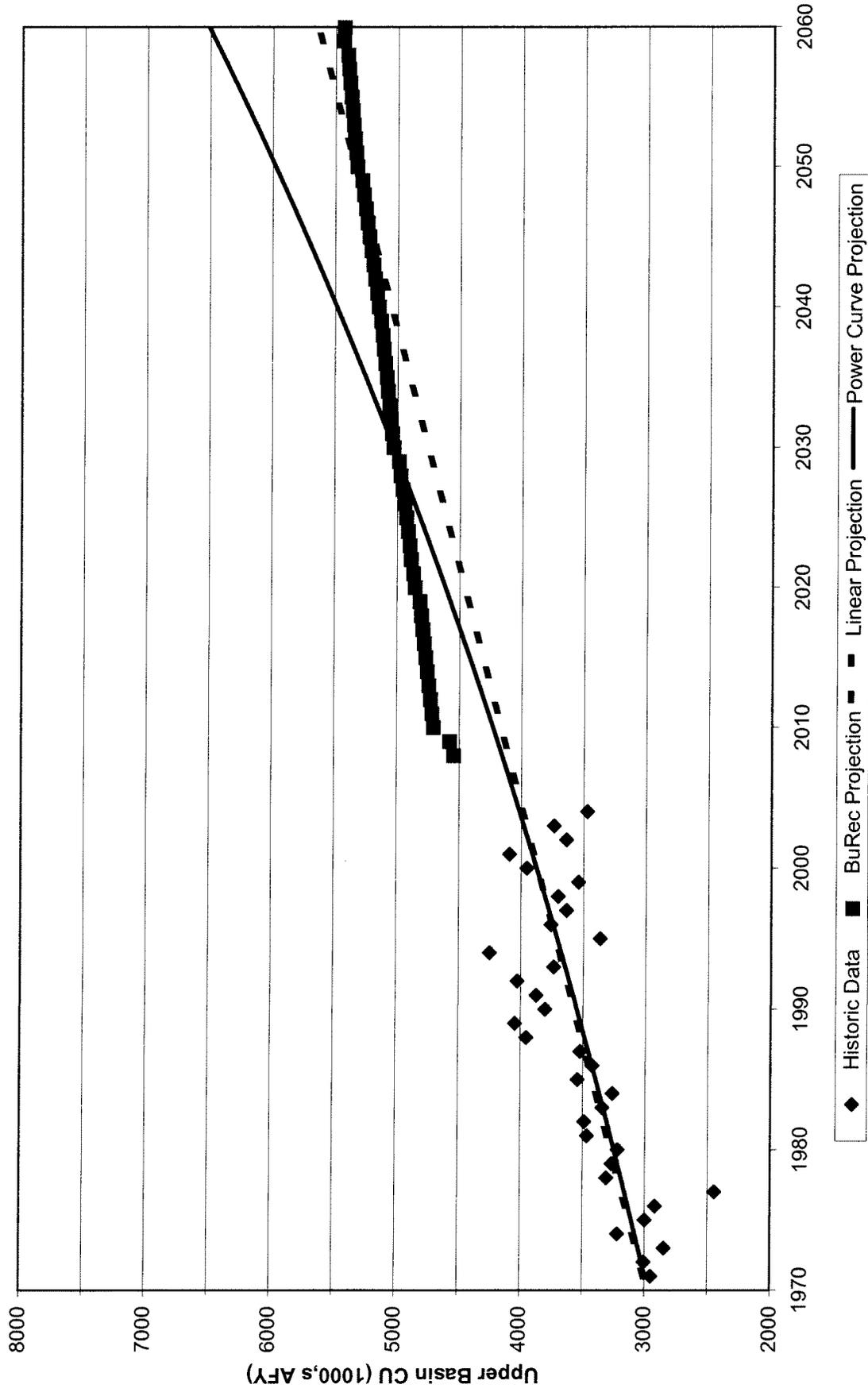
Sincerely,



William R. Rhodes, Governor
Gila River Indian Community

cc: Jennifer Giff, GRIC General Counsel
Margaret Cook, GRIC Department of Environmental Quality Director

Upper Basin Consumptive Use



>>> "Stacey Hamburg" <shambu@myway.com> 04/27/07 11:15AM >>>

Mr. Rick Gold
Regional Director, Bureau of Reclamation Upper Colorado Region
Attn: UC-402
125 South state St
Salt Lake City, Utah 84138-1147

Dear Mr. Gold,

I applaud the Bureau's acknowledgment of the critical water problems for the people of the southwest in the face of continuing long-term drought as well as the efforts to devise a strategy to deal with the problem.

Of the four alternatives listed in the DEIS, Conservation before Shortage provides the best solution for providing for the water and electricity needs of the southwest cities while also protecting the Colorado's riverine ecosystem.

A particularly attractive feature of Conservation Before Shortage that is not included in the Basin States Alternative is that users who give up water in response to a conservation trigger are compensated. The Basin States alternative does not provide such compensation but strictly follows first in time, first in right western water law. This feature of Conservation Before Shortage is attractive for its obvious fairness and is particularly meaningful in that it alters the traditional way of dealing with water shortage in the West.

There are significant potential advantages to the use of voluntary, market-based conservation as an alternative to and as a means of mitigating against involuntary shortages.

In addition, in the Conservation Before Shortage Alternative, Mexico is allowed to participate in the ICS. That is Mexico can create surplus and bank it in Mead. This feature has many beneficial possibilities for the Delta. Initial indications are that all the potential players, including the powers in Mexico, find the potential attractive.

- Based on extensive modeling performed for the Lower Basin states, reductions of 400,000, 500,000 and 600,000 acre-feet at Lake Mead elevations 1075 feet, 1050 feet and 1025 feet, respectively, appear to provide optimal results in preventing larger involuntary shortages that perform better than the 200,000, 400,000, and 600,000 acre-foot reductions proposed in the original CBS proposal.

- It is desirable to protect the elevation of Lake Mead at no less than 1000 feet under any condition to protect Southern Nevada Water Authority's lower intake structures, as well as the new minimum power pool if proposed low-pressure turbines are installed at Hoover Dam.

- It is preferable for Lower Basin water users to voluntarily engage in predictable, small-scale reductions in use – and receive compensation for those reductions – rather than face large-scale, involuntary and uncompensated disruptions in water deliveries that could cut into municipal and agricultural water supplies and create unmitigated economic impacts.
- There is a large volume of Colorado River water which could be temporarily conserved through voluntary, market-based mechanisms such as part-year fallowing or forbearance agreements, dry year options, or other similar arrangements to reduce Lower Basin consumptive use on an occasional, temporary basis as an alternative to involuntary shortages to low-priority users.
- Users of Colorado River water in Mexico may wish to participate in short-term, voluntary and compensated conservation agreements, to reduce the probability of larger, uncompensated future reductions due to a declaration of shortage under the 1944 Treaty with Mexico.

For the reasons listed above, I urge the Bureau to adopt the Conservation before Shortage Alternative as the preferred alternative.

Thank you.

Stacey Hamburg
1550 N Fort Valley #19
Flagstaff, AZ 86001

From: BONNIE HAYMON [rfc333@msn.com]
Sent: Sunday, April 08, 2007 6:32 AM
To: strategies@lc.usbr.gov
Subject: Comments for Operations at Lake Powell & Lake Mead under Low Reservoir Conditions

Dear Mr. Johnson and Mr. Gold:

Lake Powell and Lake Mead lose 17 percent of the water that flows into them through evaporation. Vacant space in underground aquifers near existing Colorado River water recharge facilities could store more water than these two reservoirs combined. Upwards of 810,000 acre-feet of water annually could be saved by eliminating Lake Powell and operating Lake Mead principally for distribution to groundwater recharge facilities.

After more than 40 years of operation, it was not until the fall of 2004 that Lake Powell's water storage actually augmented downstream water use. And with the impacts of climate change and rising water consumption, it is unlikely that there will be sufficient surplus water to fill Lake Powell again. Even should surplus water accumulate, Lake Mead alone could provide sufficient storage.

Between Lake Powell and Lake Mead lies Grand Canyon National Park. The operation of both these reservoirs has impacted the Canyon, but Glen Canyon Dam at Lake Powell has been far more devastating. Since the dam's completion four of eight native fish have gone extinct and the dam has trapped the sediment necessary to maintain habitat and beaches for wildlife and recreation, as well as the stabilization of archeological sites.

Sediment is a major unresolved problem threatening the long-term operations of Lake Powell and Lake Mead. Ultimately, sediment must be removed to ensure public safety. Removing sediment from Lake Mead downstream, rather than Lake Powell upstream is the most technically feasible, least costly and environmentally advantageous approach.

The Colorado River Compact of 1922, which largely governs the operations of Lake Powell for Lake Mead, cannot meet its intended purpose of equitably sharing Colorado River water between the Upper and Lower Basin states. With River flows expected to decline 18 percent by 2040, this inequity will worsen, furthering the need for Compact amendments while highlighting the benefits of eliminating Lake Powell to fulfill the Compact's primary objective.

BONNIE HAYMON
71 PERRY ST
BROCKPORT, NY 14420

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PUBLIC MEETING
US DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

Draft Environmental Impact Statement
Overview and Opportunity for Public Comment

Held at the Henderson Convention Center
200 South Water Street
Henderson, Nevada

On Tuesday, April 3, 2007
6:15 p.m.

Reported by: Lori M. Judd, CCR #233, RMR

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APPEARANCES:

Terrance J. Fulp, Ph.D
Area Manager, Boulder Operations Office

Nan Yoder
Amber Cunningham
Boulder Canyon Operations Office

Public Attendees as indicated on
Sign-in sheet

* * * * *

1 HENDERSON, NEVADA, APRIL 3, 2007, 6:15 p.m.

2 * * * * *

3 (Introduction and overview by Nan Yoder.)

4 (Project presentation by Terry Fulp.)

5 QUESTION BY MR. DANOS: Have you had
6 any requests to extend the comment period yet?

7 MR. FULP: No, we have not. We are
8 hopeful to stay on schedule, by the way. We will
9 certainly listen to such requests.

10 (Continuation of presentation by Mr. Fulp.)

11 (Question and answer session as follows:)

12 MR. FULP: Are there any other
13 questions that we could take and answer?

14 QUESTION BY MR. DANOS: What was the
15 basis of the assumption that the YDP would not be
16 operated for any of the alternatives?

17 MR. FULP: That's a good question.

18 Well, we had a couple things in mind.
19 The primary one was we wanted to look at kind of the
20 worst case impact, particularly to Lake Mead. And so
21 those bypass flows coming from the Wellton-Mohawk
22 return flows, we assumed those would happen every
23 year. And that in some sense gives us a worst case,
24 at least with regard to that decision at Lake Mead.
25 That's water leaving the system, which would lower

1 the lake and continue those types of impacts. So
2 that was primarily a worst case.

3 Now a couple of alternatives assume
4 some other things can happen to replace those bypass
5 flows, primarily due to conservation, conservation
6 mechanisms, but none of them assumed that the YDP
7 would operate. Again, in order to get to that
8 maximum impact of water leaving the system.

9 Any other questions?

10 QUESTION BY MR. BARON: Alex Baron,
11 UNLV. Which models are used to predict the inflows?

12 MR. FULP: It's actually a pretty
13 simple technique that we have used on the system for
14 quite awhile. We take the 100 year historical
15 record, and we just sample out of that record and so
16 we do not create any future inflow sequences that
17 have not been seen in 100 year records and we also
18 don't create any magnitudes that we have not seen in
19 the 100 year historical record.

20 With that technique, what we did do in
21 this EIS, this draft is we did a sensitivity analysis
22 and it's in an appendix, so if you are interested in
23 that, we did look at three other alternative
24 techniques of looking at future inflows that do, in
25 fact, generate sequences we have not seen in the past

1 and magnitudes we have not seen in the past and we
2 did that again as a sensitivity analysis on the
3 hydrologic resource. We did not continue that all
4 the way through all the resource analyses.

5 Does that help a little bit? So one
6 of the key pieces of information that the three
7 scenarios used, the real key one was we looked at
8 tree ring construction data and used it in a couple
9 of ways to generate that.

10 Any others?

11 QUESTION BY LESLIE JAMES: Leslie
12 James, from CREDA. I have a pretty small question.

13 I'm interested in why the reference in
14 a couple of places to the beach/habitat building
15 flows -- BHBF -- because I don't believe the analysis
16 assumed any specific BHBF, and given the controversy
17 and the current state of discussion -- I just came
18 from an all-day meeting on that today -- I was
19 interested in why reference was included on that.

20 MR. FULP: Well, let me clear up
21 something and make sure that I explain what we really
22 did do and then perhaps we didn't disclose that in a
23 reasonable or understandable way.

24 MS. JAMES: I didn't understand it.

25 MR. FULP: What we have assumed is in

1 Lake Powell operation for all the alternatives, that
2 BHBF would be made under those triggering, I'll call
3 them criteria that were put in place in about 1997.
4 So it's at those high reservoir levels of Lake
5 Powell, that's that criteria that's been built into
6 here and boy, Leslie, if you ask me to remember the
7 details of that, I would probably not.

8 MS. JAMES: Not the sentiment
9 triggering criteria, but the lake level triggering
10 criteria?

11 MR. FULP: Yes, the lake level, high
12 level. It's essentially near spill avoidance, if
13 Powell is near spill avoidance, it's triggered.

14 Now there's a bunch of rules on
15 forecast, and you understand that. I don't remember
16 all the details, but it's at that spill avoidance
17 level.

18 MS. JAMES: We'll probably make some
19 comment to clarify that, because we just heard
20 yesterday, in fact, that there is not yet a science
21 plan that's been put in place to even be able to do
22 another one of those and there's been a lot of
23 discussions about utilizing other triggering criteria
24 besides just sediment triggers, like economic
25 criteria and other criteria. So it's still very

1 controversial.

2 MR. FULP: I understand that. And I'll
3 only make one other clarification, I think you know
4 this, but for everyone else's benefit, those two, if
5 that happened would not be modeled with those
6 triggering criteria that are in place in the model.
7 Those were not done at the high level spill avoidance
8 level. They were more experimental, I guess is maybe
9 the proper term.

10 MS. JAMES: That helps clarify for me
11 because I didn't understand that the triggering
12 criteria you were talking about were the high levels,
13 not the sediment triggering criteria that the 1996
14 and 2004. Okay, thank you.

15 MR. FULP: Correct, we did not do that.
16 That should be detailed, and it's probably buried in
17 Appendix A, but I can direct you to Appendix A and
18 don't worry about all the other flub, but hone in on
19 the BHBS and it will explain those exactly.

20 Any other questions?

21 Okay. Then I think we get to sit down
22 and let you, if you would like to make a public
23 comment to us, we'll capture it, record it, and
24 essentially listen to you all.

25 (No public comments.)

1 MR. FULP: Well, okay, we've got plenty
2 of time. Don't feel pressured.

3 MS. YODER: If you didn't want to speak
4 right now, you can express whatever comments you have
5 to us in writing. And again, you can fax those
6 comments to us, e-mail them to us, or if you want to
7 use the good old postal mail, you can do those as
8 well. And again, the close of the comment period is
9 April 30th, so we're hoping to hear from everyone.

10 We put a lot of effort into the
11 document and putting it out there for your
12 consideration and we're sure that you will have a lot
13 of things to share with us as a result. And that is
14 the end of our presentation tonight.

15 So we thank you all for being here and
16 if there is any other questions, we will be staying
17 here through 9:00, should anyone show up late after
18 having done their civic duty and voted, okay. Thank
19 you very much.

20 (The floor remained open for public
21 comment until 9:00 p.m., whereupon the proceedings
22 concluded.)
23
24
25

1 REPORTER'S CERTIFICATE

2
3 STATE OF NEVADA)
4) ss.
5 COUNTY OF CLARK)

6 I, Lori M. Judd, a duly commissioned Notary
7 Public, Clark County, State of Nevada, do hereby
8 certify:

9 That I reported the foregoing
10 proceedings on Tuesday, April 3, 2007, commencing at
11 the hour of 6:30 p.m.

12 That I thereafter transcribed my said
13 shorthand notes into typewriting and that the
14 typewritten transcript of said proceedings are a
15 complete, true and accurate transcription of my said
16 shorthand notes taken down at said time.

17 I further certify that I am not a
18 relative or employee of an attorney or counsel
19 involved in said action, nor a person financially
20 interested in said action.

21 IN WITNESS WHEREOF, I have hereunto set
22 my hand and affixed my official seal in my office in
23 the County of Clark, State of Nevada, this 30th day
24 of April, 2007.
25



LORI M. JUDD
CCR #233, RMR

4-17-07

Bureau of Reclamation

Re: Comments on Shortage Guideline Matters

1. I request that your use of the term "extraordinary conservation" be changed to **extraordinary measures** which includes:
 - a. **Extraordinary conservation** based on doing something using less water and thereby generating **conserved wet water**.
 - b. **Fallowing and crop rotation** based on "not farming for a period of a year or more" or "not farming for a period which is less than a year" and generating **saved wet water**.

Making this distinction is important for:

- (1) **Conservation** has a positive socioeconomic impact
- (2) **Not farming** has a negative socioeconomic impact

2. I support Reclamation directly managing the ICS program based on:
 - a. The Lower Basin States submitting their ideas
 - b. Reclamation proposing and establishing policies and procedures
 - c. Reclamation managing the ICS program in accordance with its policies and procedures

Because the Seven Basin State and lower Basin State meetings and the Technical Committee meetings are closed to the public, I request that Reclamation will be available to discuss the management of the ICS program further upon request.


Cliff Hurley

Cliff Hurley 1108 W. Evan Hewes Hwy, El Centro, CA 92243 Phone/fax 760.352.6496



OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

APR 27 2007

4/30/07
BC00-1000
1003

Bureau of Reclamation
Attention: BC00-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Dear Bureau Staff:

Thank you for providing the opportunity to review the Draft Environmental Impact Statement, titled *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* (DEIS). The United States Section, International Boundary and Water Commission (USIBWC) is charged through various treaties and international agreements to evaluate the relationship of projects to international obligations of the United States. The following and attached review comments are for your consideration and use.

The International Boundary and Water Commission (IBWC) is responsible for applying the boundary and water treaties between the two countries and settling differences that arise in the application of the treaties. The United States Section carries out the activities in the United States resulting from obligations and rights assumed with the Government of Mexico in accordance with these treaties and related agreements. The USIBWC duties include review of projects on resources in the United States and effects potentially crossing into Mexico.

The IBWC has agreements that pertain to issues within the Colorado River watershed, the Treaty Relating to the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, and supplementary protocol, November 1, 1944 United States-Mexico (1944 Water Treaty), the Treaty to Resolve Pending Differences and Maintain the Rio Grande and Colorado River as the International Boundary Between the United States and Mexico, signed at Mexico November 23, 1970 (1970 Boundary Treaty), and several related agreements that merit consideration.

In accordance with the 1944 Water Treaty, the United States delivers 1.5 million acre-feet of Colorado River water annually to Mexico. The treaty also states that when there is water surplus to United States uses, an additional volume of up to 200,000 acre-feet/year may be delivered. The two Governments entrusted the IBWC to give attention to salinity control. Minute No. 242, a binding agreement of the United States and Mexican Governments, controls the salinity of Colorado River water delivered to Mexico. The Minute also provides for limits on groundwater pumping within five miles of the international boundary near San Luis, Arizona, and for consultations between the two countries prior to undertaking any new development of the surface or groundwater resources, or undertaking substantial modifications of present developments in the border area, that might adversely impact the other country. Commission Minute No. 306 provides for cooperation between the two countries in the development of studies and recommendations regarding the ecology of the Colorado River limitrophe and delta. The 1970

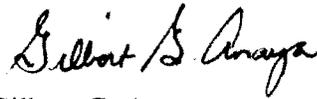
Boundary Treaty includes providing for the preservation of the Colorado River as the international boundary.

These agreements are all available on the USIBWC web page at www.ibwc.state.gov.

The USIBWC is the primary federal agency responsible for promoting the identification, investigation, and resolution of transboundary and boundary water and border technical issues along the United States and Mexico boundary region. The USIBWC carries out its statutory responsibilities through binational cooperation and in partnership with other entities. The United States Government gives limited technical investigative authority to the USIBWC.

Thank you again for the opportunity to review and comment on the DEIS. If you have any questions regarding these comments, please call me at (915) 832-4702 or contact R. Steve Fox, Environmental Protection Specialist, at (915) 832-4736.

Sincerely,

A handwritten signature in black ink that reads "Gilbert G. Anaya". The signature is written in a cursive style with a large initial "G".

Gilbert G. Anaya
Supervisory Environmental Protection Specialist
Environmental Management Division

DRAFT Review Comments, United States Section, International Boundary and Water Commission, April 2007, on the *Draft Environmental Impact Statement Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*, February 2007, Bureau of Reclamation

General Comment.

The Draft Environmental Impact Statement (Draft EIS) seems to be on water management and deliveries.

Specific Comments.

Page TOC-viii, Section 6.8. Revise to “Consultation with Government of Mexico Agencies” or “Consultation with Agencies of Mexico.”

Page 1-3, line 34, delete “drought and”

Page 2-4, line 34. Revise to “In addition, the determination of shortages to Mexico does not fall under the authority of the Secretary, and therefore is not a part of the proposed federal action. Such determination would be made in accordance with the 1944 Treaty” (Section 1.7). Page 2-4, line 36. Specify the Subsection of the stated “(Section 1.7),” as the Section is broad.

Page 2-15. Line 22. Add a sentence or footnote to indicate that potential future Mexican participation in a storage and delivery mechanism is assumed to be included within the range for the “Unassigned” category in Table 2.6-1.

Page 3-3, Section 3.2. Please comment on the following. Based on the Section and Chapter 4, there could be effects to the services of MWD. MWD provides assistance to the IBWC on the “emergency transfer of a part of Mexico’s Colorado River water through the Southern California aqueduct system to the emergency water connection at Otay Mesa for deliveries to Tijuana, Baja California, Mexico.” Minute 310 was signed in 2003. The USIBWC FONSI notes that the agreement is for five year.

Page 3-46, line 1. Specify the Subsection of the stated “(Section 3.4).” Section 3.4 is referenced in line 1 of the Draft EIS in the context of salinity yet the Section is on water quantity, not quality. Recommended is stating such.

Page 4-8, lines 31-37 and Page 4-9, lines 1-2. This paragraph is confusing. It should be rewritten for clarification. The statement “replacement of bypassed water is not assumed to occur in the future” is particularly confusing. What does this mean in terms of modeling deliveries to Mexico or why was that assumption made?

Page 4-119, lines 1-3. The sentence: “The occurrences of deliveries greater than 1.5 mafy reflect both times when additional water up to 200 kafy is made available during Flood Control conditions.” After the word “available” insert the word “and.”

Page 4-119, Figure 4.4-32 and others. The Figure and other charts in this Section label the y-axis as “Annual Depletions.” Recommended is changing those labels to “Annual Deliveries,” though they are depletions from the system.

Page 4-131, Section 4.5. Subsections 4.5.2.1 and 4.5.3 are on salinity. It is suggested that the Draft EIS describe the Minute 242 requirements regarding the applicable salinity differential for water deliveries to Mexico, and reference Section 3.5.1, page 3-46, on salinity. It is also suggested that the Draft EIS state what the alternatives’ effect would be on the salinity of waters delivered to Mexico and Minute 242 compliance.

Page 6-5, line 16. The Draft EIS states “IBWC and Mexico National Water Commission Meetings with representatives of Mexico...” Revise to “IBWC, the Mexico National Water Commission, and Mexico Secretariat of Foreign Relations meetings with agencies of Mexico ...”

Page 6-8. Delete “**United Mexican States Agencies**” and insert “**Government of Mexico Agencies.**”

Page B-32, line 2. Delete “... approximately 25 miles ...” and insert “... 23.7 miles ...”

Page B-32, line 11. Insert “The current design flood flow in the limitrophe is 140,000 cfs.”

Page B-32, line 26. Insert after the words “The reach of” the word “the.”

Page B-32, line 33, after “up to” insert “an additional.”

With this change, it would read, “Mexico is allowed to schedule up to an additional 200 kaf pursuant to the 1944 Treaty during flood control years....”

Page I-1, Table I-1, U.S. Department of State. Insert after the stated “Various planning meetings” the punctuation and date “; 6/23/06.”

Page I-2. Delete “**United Mexican States Agencies**” and insert either “**Government of Mexico Agencies,**” or “**Agencies of Mexico.**”

Page I-2, Table I-1, International Boundary and Water Commission, Mexican Section. Insert after the stated date “2/8/06,” the words and punctuation “including the shortage issues and EIS,”. Also, insert after the stated “9/25-29/06” the words and punctuation “; including Upper Basin Tour.” Finally, insert, in bold in column one, another category at the end of the table, and title it “International Boundary and Water Commission (IBWC).” In column two of the same new entry, insert the words and meeting date “IBWC and Reclamation, meetings, including 6/23/06.”

Page I-2. Table I-1. It is recommended to add additional meeting dates that occurred in February and March 2007 with the Mexican representatives.

Page M-8, lines 10-18. This paragraph is confusing, especially the last sentence on lines 16-18. It is suggested that this concept be clarified. If the storage credits were assumed to be generated

via extraordinary conservation within Mexico, then how could they be used by the United States to be counted toward replacement of the bypass flows to the Cienega de Santa Clara in Mexico? Does this assume that U.S. entities would pay to acquire some of Mexico's water? If so, then it raises significant treaty compliance issues.



**United States International Boundary and Water
Commission, United States Section
Engineering Department**

TO : Strategies
U.S. Bureau of Reclamation

FAX : 702 293-8516

PHONE :

FROM : Gilbert Anaya, Supervisory Environmental Protection Specialist

SUBJECT : Mexico's comments on the Draft EIS

DATE : April 30, 2007

No of Pages including cover sheet: 8

Original letter to be mailed on a later date.

If you have any questions, please contact Mr. Gilbert Anaya at 915 832-4702.

Margarita V. Garay, Secretary
International Boundary and Water Commission
4171 N. Mesa, Suite C-100
El Paso, TX 79902
(915) 832-4104
(915) 832-4195 - Fax
margiegaray@ibwc.state.gov



INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

April 30, 2007

Bureau of Reclamation
Attention: BCOO-1000
PO Box 61470
Boulder City, NV 89006-1470

Dear Bureau Staff:

The U.S. Section of the International Boundary and Water Commission provided a copy of the Draft Environmental Impact Statement on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead to the Mexican Section of the Commission and invited comment from the Mexican Section. The Mexican Section provided detailed comments by means of a letter dated April 25, 2007. By means of this letter, I wish to communicate the Mexican Section's views to the Bureau in English.

The Mexican Section indicates that its comments of April 25 supplement initial views presented in a letter on March 29, 2007. That initial letter expressed the following views:

The Mexican Commissioner has indicated that any proposal for basin operations that affects Mexico's allocation needs to be approved bilaterally within the framework of the IBWC, particularly any alternatives that imply an interpretation or application of the extraordinary drought clause of the 1944 Water Treaty. Any reduction in the allocation of water to Mexico shall be done in strict conformance with the terms of the Treaty. As stated in the meetings, Mexico views that the reduction applicable to Mexico in the event of extraordinary drought should be proportional to consumptive uses in all of the basin states, not just those of the lower basin.

He also expresses Mexico's interest in being informed about and participating in discussions about sustainable use of the basin and, as appropriate, for Mexico to be a proportional beneficiary of conservation measures that could affect water availability in the main channel of the Colorado River.

Moreover, he states concern that operations under the shortage criteria could affect the salinity of Colorado River water delivered to Mexico, reduce the likelihood of surplus waters being delivered to Mexico in excess of the 1.5 million acre-foot annual allotment, and reduce environmental flows to the Colorado River Delta.

The Mexican Section is also concerned that the Draft Environmental Impact Statement (EIS) includes aspects related to Mexico that have not been agreed upon by the IBWC, which could generate false expectations regarding application of shortage criteria in Mexico. The Commissioner expresses his strong disagreement that alternatives that include Mexico do not take into account the concept of extraordinary drought as required by the 1944 Water Treaty in order to reduce allotments to Mexico. He is concerned that a perception has been created that Mexico has accepted the reduced allotments modeled in the alternatives – alternatives that do not conform to the 1944 Water Treaty.

End of the Mexican Section's March 29 comments

In the letter of April 25, 2007, the Mexican Section expresses the following:

Any proposal for basin operations that affects allotments to Mexico must be agreed upon within the IBWC.

The EIS proposes conditions under which reductions of water allotments to users in the lower basin, including Mexico, will be undertaken. It clarifies that the modeling assumptions do not constitute an interpretation of the 1944 Water Treaty nor do they establish operating policies with regard to water deliveries to Mexico and that any determination about such deliveries will be made in accordance with the 1944 Water Treaty. Nevertheless, the use of modeling assumptions in relation to Mexico generates false expectations that those assumptions will be or must be accepted by Mexico and by having been recorded, they could be used in the future as a restriction or limiting factor in negotiations with Mexico.

We are concerned that in spite of the repeated statements from Mexico, the document that was released to the public presents assumptions that were not previously accepted by Mexico (timing, conditions, and proportion of the reductions to Mexico).

The reduction in the allotments of water to Mexico must be under the terms of the Treaty and proportional to consumption of all states in the basin.

The policy of reductions in the lower basin of the Colorado River and Mexico is maintained throughout the document but it does not include the upper basin, which means that Mexico bears a greater percentage of reduction (16.67%) than if proportional reductions were considered for all consumptive uses in the upper and lower basin (9.1%).

In the modeling of the reductions, Mexico is always included with Arizona and Nevada, while California is not included until level 2 is reached, and the upper basin is never included. This generates false expectations as to the timing and conditions under which there would be reductions to Mexico as well as the implicit acceptance by Mexico of those reductions.

Even the No Action alternative, which should not include implementation of any actions, contains strategies of cuts for Mexico.

After applying any of the four action alternatives, it reverts back to the No Action alternative, which is a de facto policy of cuts that significantly affect Mexico.

In this context, even the No Action alternative, as addressed in the EIS, is not acceptable to Mexico, yet the language implies that should none of the four alternatives be accepted, or once their period of application ends, Mexico would not object to the No Action alternative.

Consistent with the above, all of the alternatives show reductions to Mexico of various frequencies and quantities of water and none of them is acceptable in how issues related to Mexico are addressed.

The interest of Mexico in knowing about and participating in discussions of sustainable use of the basin and, as appropriate, being a proportional beneficiary of the conservation measures that could result in the modification of water availability in the main stem.

The EIS considers a conserved volume for Mexico charged to its allotment that is designated for environmental use only and not for irrigation, its principal use in Mexico. Also, the delivery is not made when Mexico needs it (situation of scarcity or normal conditions), but rather only in surplus conditions. This type of voluntary conservation is of no use to Mexico.

No alternative was modeled in which Mexico could voluntarily conserve water to use it when it needs it.

Effect on the levels of salinity of the waters that Mexico receives.

In the analysis of the alternatives, only the quantity of water is evaluated, and not the quality of it. Given the time to undertake these analyses with the sets of rules delivered during the current month of April, it is assumed that the U.S. will comply with the salinity parameters agreed upon by the IBWC.

In the table shown on page ES18 it is observed that for three of the alternatives, increases in salinity levels are recorded at Imperial Dam (5-20 ppm), which consequently would represent an increase in the salinity of waters at Morelos Dam, since both are linked in conformance with Minute 242.

Limit on access to the surplus deliveries to Mexico.

Partial and total surpluses are allotted to U.S. users depending on reservoir storage and forecasts. Nevertheless, these additional allotments could have as a consequence the reduction in the levels of the dams that are indicators for declaring shortage. In this context, Mexico is excluded from distribution of surpluses but included during a shortage declaration, which is unacceptable to Mexico.

Reduction in the occurrence of environmental flows required by the Colorado River Delta.

In Chapter 3 of the EIS (Page 3-29) it is mentioned that due to potential changes in reservoir storage that occurs under the different action alternatives, the frequency and magnitude of flood control flows, which are those that generate surplus deliveries to Mexico, could be affected. This represents an impact to Mexico in both access to surplus deliveries as well as the occurrence of environmental flows in the Delta.

Around 16 species of fish and a list of bird species that live in the limitrophe reach are identified that could be affected by application of the proposed federal action (Table 3.8-7).

As part of the cumulative impacts, it is noteworthy that the Drop 2 storage project will reduce the volumes of over deliveries to Mexico and will have hydrologic effects in Mexican territory.

By allotting to the U.S. more frequent and greater quantities of surpluses, it leaves less water in Mead, so that when Mead spills (less frequently) it is of a lesser volume and, as a result, less water arrives in Mexico.

Inclusion of aspects that have not been agreed upon by IBWC that, by being made public in the U.S., generate false expectations on this issue.

During the binational meetings, Mexico questioned certain modeling assumptions related to Mexico; nevertheless, in spite of the repeated questioning by Mexico, the document that was released to the public

presents assumptions that previously were not accepted by Mexico (timing and conditions of reductions to Mexico, proportion of the reductions to Mexico).

The inclusion of these assumptions will have an effect on the talks to define the term of extraordinary drought referred to in the Treaty or at the time when both governments set about to define the timing and conditions for making reductions, as well as the consultations that Mexico undertakes with its users.

Although the EIS is a document for domestic use in the United States, it is not acceptable that aspects related to Mexico are presented about which Mexico repeatedly expressed its disagreement and, as previously stated, any proposal for operating the basin that affects Mexico's allotments must be agreed upon within the IBWC under the terms of the 1944 Water Treaty.

End Mexican Section's comments of April 25

In addition to the above comments presented by the Mexican Section of the International Boundary and Water Commission, the U.S. Section has received observations from Mexico's National Water Commission (CNA). CNA's comments are as follows:

The Draft EIS presents five alternatives for operating the Colorado River basin from 2008-2026. The alternatives are presented as four federal action alternatives and one for reference, called the No Action alternative, which should lack any implementation of actions; nevertheless it contemplates strategies (reasonable ones in accordance with the draft EIS) of cutbacks to Mexico. In this sense, there is no control scenario where water would continue to be distributed as it is today. Although the EIS is for the purpose of internal analysis in the U.S., in fact it means there is already a de facto policy of cuts that significantly affects Mexico since, following the period of application of one of the four action alternatives, it reverts to the No Action alternative. This concerns the National Water Commission because, if none of the other four alternatives is accepted, it could be construed that Mexico would not object to the No Action alternative because it supposedly represents current conditions.

In the meeting held March 14, 2007, representatives of the U.S. Bureau of Reclamation explained to Mexican personnel from the IBWC and CNA that the draft EIS has been opened for public comment in the U.S. and to the opinion of Mexico until the end of April.

The minutes of that meeting confirm that the U.S. Bureau of Reclamation would provide to Mexico during the week of March 19 additional information requested by CNA so that CNA could provide its opinion on time. Nevertheless, it was not until April 10 that CNA received from the Mexican Section the agreed upon information, forcing us to review it under much pressure and it still has not been completely examined.

Upon conducting an analysis of the EIS, it is observed that at all times a policy of reduction in the lower part of the Colorado River basin and to Mexico is maintained. During the meetings it was mentioned that this was due to the fact that the states of the upper basin have natural reductions due to the fact that the flow of the river is insufficient for the required demand. It was also commented that the droughts in the upper basin are more frequent than in the lower basin. First, it must be reiterated that, according to the 1944 Water Treaty, the first step consists of declaring an extraordinary drought and, based on that, proportional reductions will be applied according to consumption in both countries, meaning the upper and lower basin together. Additionally, the term "consumption" implies that of current users and not to

the volumes allotted that are still not utilized in the upper basin. From the analysis of drought undertaken in the upper basin, it can be seen that its frequency and severity is not significant, and as such does not constitute an argument to exclude the upper basin. It is observed in most cases that California is not reduced until reaching a level 2. In any case, if the U.S. decides not to reduce California in any of the alternatives, that is its decision. However, the reduction to Mexico should have been modeled only when reductions were applied to the entire American basin, in conformance with the 1944 Water Treaty. Mexico reiterates its concern that this modeling will generate false expectations and misinformation about the timing and conditions under which there would be reductions in Mexico as well as Mexico's implicit acceptance. This has great relevance when it comes time for both countries to evaluate the terms under which cuts in allotments will have to be made, to define the term extraordinary drought, or for Mexico to undertake consultations with its users. Until extraordinary drought is defined and declared, the U.S. must comply with water deliveries to Mexico under the terms of the 1944 Water Treaty. What the EIS proposes is a "goodwill" agreement.

An additional analysis performed on the Colorado River basin to verify that the upper basin is more affected than the lower basin shows that the annual historic precipitation (1908-2006) has diminished less than runoff. This could be due to three possible factors: 1) the basin could be dry in a year prior to a wet year and part of the volume of water is lost due to seepage; 2) over pumping of groundwater reduces the aquifer's contribution to base flow and, in extreme cases, suctions the flow from the streams; 3) rainwater could seep into local sinkholes (natural or induced). In any event, more information is required, especially regarding supply and demand of groundwater, in order to reach a possible conclusion. What is certain is that the analyses show a noticeable reduction in rainfall and runoff. The fact that runoff has been reduced with respect to water allotted in the Colorado River Compact, added to the presence of more frequent droughts in the last two decades (the most recent since 2002) according to our analysis, indicates that we must prepare ourselves for an imminent situation of periods of less runoff.

In the EIS (Appendix M) (*U.S. Section comment – we believe this is actually a reference to Appendix N*) it appears that it is indicated that in 2026 the levels of Lake Mead will be stabilized because it will receive a constant delivery from Lake Powell and because of that it won't fluctuate as much as during the interim period for some of the alternatives studied. It is not clear what is meant by a stable situation for 2026 given that in the same Appendix M: 1) the graph of probability of shortages shows that they will exist beyond 2026 and they will not have low values; 2) in 2010 there are cuts in the Reservoir Storage alternative; 3) in 2017 there are lesser cuts to 1.0 maf; 4) in 2026 the majority are reductions of less than 1.0 maf but there are many at other levels; 5) in 2060 the majority of the cuts are of 500 kaf.

In conducting an analysis of the five alternatives and their effects on allotments to Mexico, the one that seems to have fewer negative impacts on Mexico is Conservation Before Shortage. That is because U.S. users would make voluntary efforts to maintain high levels in Powell. Nevertheless, the EIS refers to voluntary conservation. In this scenario, conservation is managed as a voluntary reduction, but for modeling purposes the U.S. Bureau of Reclamation ran suggested reductions. It must be noted that that conserved waters are accounted for and charged to the users' allotments and the conserved volume could be used later (discounting evaporation and a 5% charge for the benefit of the basin). In the case of Mexico, the conserved volume at the expense of the allotment (1.5 maf) is designated for environmental use only and not for irrigation (Mexico's main use). Also, the delivery is made not when it is required (situation of scarcity or normal conditions) but rather only in a situation of abundance (modeled every five years). Voluntary conservation in this manner is not useful for Mexico as a consumptive use.

Likewise, the EIS has a table in Appendix M with an error in that it shows that Mexico receives more water than conserved. (*U.S. Section comment – we are unclear from Mexico's comments which specific table is referenced.*) This is not possible from the physical point of view. The conserved volume is identical to the volume released in various examples on the table M4; but it should be less.

What is not modeled in the alternative is that Mexico would voluntarily conserve water to use when needed. One aspect still pending is that, should this scenario take effect, and if it is in Mexico's best interest, the U.S. government would need to take internal steps so that Mexico could store its conserved volume. Additionally, Mexico would have to evaluate the legal impact of this measure.

In conclusion, this alternative only could be attractive for Mexico, in alliance with U.S. environmental organizations, if economic support from the U.S. is provided to make technical improvements to irrigation in Mexico. Otherwise, this is not considered a viable option for Mexico.

To better evaluate the behavior of the alternatives, analysis was done extending the interim period for 20 years before the No Action alternative entered into operation and sequences 23 and 46 were applied to this interim period, modeling the least favorable conditions that have occurred in the basin. These analyses show that for Mexico (in case it is obligated to choose from these five alternatives) the Water Supply alternative guarantees its complete allotment during the entire simulated period before the No Action alternative enters into force. Nevertheless, there exists the risk that once the No Action alternative enters into force, storage in the reservoirs would be so low that there would automatically be severe cuts for Mexico. Given the recent climatic variability of the Colorado River basin, it would need to be evaluated if this strategy of reductions after the interim period or a strategy of smaller shortages distributed over the period would be beneficial to Mexico. Perhaps the decision could be supported with U.S. funding to make technical improvements to irrigation systems in Mexico.

If the existing level of the reservoirs will be the indicator for making decisions, then there is no pressure on users that take water upstream of the reservoirs. This can be appreciated in the Basin States alternative where the volumes from the dams in the upper basin (including Powell) are high and the support to Mead is only produced when it reaches near the level of 1000.

For all the alternatives, it would be recommended that the U.S. establish a program to monitor volumes allotted, used, and returned and report on water conservation measures.

Finally, it must be mentioned that when comparing the results of the No Action and Water Supply alternatives, it is noted that Mexico receives less surplus water in the No Action alternative. The interpretation is that this alternative assigns surplus waters to the U.S. more frequently and in greater quantity than in the Water Supply alternative and leaves less water in Mead such that when Mead spills (less frequently) it is of a lesser volume and, as a result, less is provided to Mexico.

In summary, except for the considerations of the Water Supply and Conservation Before Shortage alternatives, the rest of the alternatives always show reductions to Mexico of various frequencies and quantities of water. It is evident that none of these options is appropriate for Mexico.

The CRSS model provided recently still has values of 10 acre-feet in some segments; this does not correspond to environmental flow. The requirement of a minimum flow of 10 acre-feet/month for each segment was used in the original model for salinity calculations. To avoid dividing by zero in calculating

salinity, in case there were an upstream segment with zero flow, the original CRSS model limited flow to a minimum of 10 acre-feet/month. In the analysis of the alternatives, only the quantity of the water and not its quality is considered. Given the amount of time to undertake these analyses with the set of rules delivered in April, one is left with the assumption that the U.S. will comply with the Minutes undertaken within the terms of the 1944 Water Treaty in relation to the salinity parameters. It is also assumed that the modeling of quantity is more linked to the reality of the basin and the quality model has many more assumptions and considerations that would have to be discussed in specific meetings. Additionally, if the allotted volumes are complied with, the salinity in the lower part should not be a problem in the alternatives.

In the alternatives modeled, it is observed that in the reservoirs much care is taken to leave space for flood control; Mexico has no objection to this.

With the model, by running the alternatives with drier runoff scenarios (23 and 46), it is observed that the reservoirs upstream of Powell are emptied. The table of results shows negative values which physically is not possible. Perhaps the model would have to consider a minimum level (dead storage) to avoid that situation of generating erroneous results allotting water that does not exist.

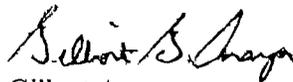
Another observation about the model is that since it does not model groundwater, it could cause water that doesn't exist to be allotted to meet demand downstream of the sources, as well as overstated inflows to the lower dams. This is derived from the possible losses in the channels caused by overexploitation in the areas of groundwater use.

End CNA comments

I appreciate the opportunity the U.S. Bureau of Reclamation has afforded the International Boundary and Water Commission to share the international view of the Draft EIS. I also appreciate the Bureau's willingness to engage in meaningful technical discussions with Mexico through the Commission.

Should you have any questions, please do not hesitate to contact me at 915-832-4702.

Sincerely



Gilbert Anaya
Supervisory Environmental Protection Specialist
Environmental Management Division

>>> "RSLynch" <rslynch@rslynchaty.com> 04/30/07 4:08 PM >>>
Please see attached comments.

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E-MAILED ONLY

April 30, 2007

Regional Director, Lower Colorado River Region
Bureau of Reclamation
Attn: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Re: Comments on the Draft Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, 72 Fed.Reg. 9026, et seq. (February 28, 2007)

The following comments are submitted on behalf of the Irrigation & Electrical Districts Association of Arizona, a statewide association of 24 Members and Associate Members that contract for and receive power from Glen Canyon Dam, Hoover Dam, the Parker-Davis Project and the Navajo Generating Station. As such, our Members and Associate Members are directly impacted by the proposed Interim Guidelines.

The Irrigation & Electrical Districts Association of Arizona (IEDA) was founded in 1962 and represents the interests of its membership concerning federal hydropower resources generated on the Colorado River. Since 1962, IEDA has been intimately involved in the development of legislation, regulations, environmental analyses and other activities concerning power generation on the Colorado River.

IEDA wishes to compliment the Bureau of Reclamation on its thorough analysis of the resources subject of this DEIS and, specifically, with its analysis of hydropower resources and proposed impacts on those resources from implementation of any of the alternatives analyzed in the DEIS.

Having said that, however, we are mindful of the comments already submitted by the Colorado River Energy Distributors Association (CREDA), of which IEDA is a member, and the careful and specific analysis of necessary changes in the DEIS that those comments identify. We totally support those comments.

We wish to draw Reclamation's attention specifically to the economic analysis and forecast comments on page 2 of the CREDA comments. We do so because we feel one shortcoming of the DEIS is its failure to adequately appreciate the future value of peaking power from hydropower facilities managed by the Bureau of Reclamation on the Colorado River. As demand for electricity

continues to increase, demand for peaking power will increase also, perhaps even more rapidly than demand for base load. There are numerous studies available that supply such forecasts in peer reviewed analyses. Limitations on the use of Glen Canyon Dam especially as a peaking power resource, and to a lesser extent Hoover Dam, will cause the utilities that contract for those resources to seek other sources of peaking power. It is reasonable to assume that other hydropower resources will also be fully committed and overcommitted, especially in a region-wide drought. Thus, the alternative peaking power resources will come from fossil fuel sources. The DEIS does not recognize this fact nor attempt to analyze the increase in fossil fuel electric power demand that will be created when these Shortage Sharing Guidelines need to be implemented. Since Congress has recognized the value of hydropower over a long history, in such provisions as Section 5 of the Colorado River Storage Project Act of 1956, the final EIS needs to recognize this value also and to recognize the increased demand on the fossil fuel portion of the regional generation supply that utilization of the Shortage Sharing Guidelines will produce.

The final EIS also needs to recognize that there will be a concomitant increase in greenhouse gas emissions from lesser availability of federal hydropower on the Colorado River. Since these alternative generation resources are less nimble than hydropower, more of them will be required to cover the same real time demand than a hydropower facility would otherwise supply. This factor needs to be recognized in the final EIS as well.

The final EIS also needs to recognize the current status of contracting for the Parker-Davis resource. Compare the statement at page 3-95, line 27, with the statement at page 4-235, lines 34 and 35. Those conflicting statements will both need to be updated as Reclamation finalizes the EIS.

Finally, we note that CREDA believes that the collaborative process being undertaken by the Basin States may continue to refine parameters of the Basin States alternative as described in the DEIS. CREDA asks for further ability to comment on any such refinement. We are under the impression that the refinement process that NEPA can recognize will be reflected in the comments submitted during the comment period on the draft EIS and not thereafter. As Reclamation well knows, should any significant change to the proposed alternatives be considered by Reclamation after the close of the comment period, any such changes would be required to be resubmitted for public comment. Given the timeline that Reclamation has announced for completion of this process, we anticipate that that will not happen. However, should a significant change to any of the alternatives be proposed for consideration, we will assume that Reclamation will reopen the comment period before completing the Environmental Impact Statement process. Such action would be required to maintain the integrity of the process.

Thank you for the opportunity to comment on this most important exercise.

Sincerely,

/s/

Robert S. Lynch
Counsel and Assistant Secretary-Treasurer

RSL:psr

cc: IEDA Members

April 15, 2007

TO: Regional Director, Lower Colorado Region,
Bureau of Reclamation, Attention: BCOO-1000,
P.O. Box 61470, Boulder City, Nevada 89006-1470;
FAX (702) 293-8156; e-mail strategies@lc.usbr.gov

FROM : Orion Inskip, Class of 2008
Seattle University, School of Law, Sullivan Hall
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RE:

DRAFT EIS: Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

This comment is regarding the Draft Environmental Impact Statement (DEIS) prepared by the Bureau of Reclamation (Reclamation) for the Secretary of the United States Department of the Interior (Secretary) in support of a proposal to adopt specific interim guidelines for the Colorado River Lower Basin (Lower Basin) shortages and coordinated operations for Lake Powell and Lake Mead, particularly under drought and low reservoir conditions. The bulk of these comments are related to how the Interim Shortage Guidelines (ISG) will affect the Navajo Nation.

SUMMARY of COMMENTS

In general the DEIS fails

- (1) to include the Upper Basin usage or Management into the any of the plans; the Final Environmental Impact Statement should be a programmatic EIS that includes the shortage plan for the entire basin so that the shortage can be equally shared across all stakeholders;
- (2) to address the issue of Federal Indian Reserve Water Rights particularly the lack of adequate culinary water available to members of the Navajo Nation;
- (3) to address the storage capabilities of CAP, the MWD Aquaduct, and the alternatives of using aquifers for storage to reduce the evaporative loss in the reservoirs; and
- (4) to include contingencies to react to actual global warming projections.

Background of the Navajo Nation

The Navajo Nation includes the largest geographic area of any reservation in the United States.¹ The reservation is approximately 27,000 square miles.² As of the year 2000 census there are currently 298,215 members of the Navajo Nation, of which an estimated 173,987 currently live within the Navajo Nation reservation.³ The majority of the Navajo Nation is geographically located in the Lower Basin state of Arizona. However, there are portions of the Navajo Nation in New Mexico and Utah. As of the 2000 census 63,500 members of the Navajo Nation were without domestic culinary water in their homes and had to haul water from community wells.⁴ Additionally, the Navajo Nation will likely continue a transition from livestock herding to an agricultural based economy. In order to meet the future demands of the Navajo Nation a substantial quantity of water will be required.

The Supreme Court recently decreed in the Consolidated Decree that the Colorado River Indian Reservation, located in Arizona and California, had a prior perfected right to 662,402 acre feet (af) of Lower Basin.⁵ This allocation is based on water that can be diverted and put to a consumptive use on the reservation.⁶ However, the Decree does not actually restrict the use to which that water can be applied, so long as it is a beneficial use under the meaning in the decree.⁷ Additionally, under the Consolidated Decree allocations to the tribes are charged to the state within which the consumptive use is made.⁸ Although, there are members of the Navajo Nation homesteading on the Colorado River Indian Reservation, the bulk of the Nation's

¹ <http://www.census.gov/population/www/cen2000/phc-t18.html> [last checked 15 April 2007]

² *Id.*

³ *Id.*

⁴ <http://www.freewmexican.com/news/57909.html> [last checked 15 April 2007]

⁵ *AZ v. CA*, 547 U.S. 150, 126 S.Ct. 1543 (2006)

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

members remain within the Navajo Nation reservation. Unfortunately, the Consolidated Decree does not identify an apportionment from the Lower Basin's apportionment to the Navajo Nation.

Approximately one third of the Navajo Nation reservation is in the state of New Mexico. The fact that the Navajo Nation is split between states and between the Upper and Lower Basins has severely complicated any claims by the Navajo Nation for water. Although Congress granted the Navajo Nation 508,000 af of Upper Basin water in the Navajo Indian irrigation project, the Navajo Nation has never realized that amount.⁹ Instead, after decades of litigation and controversy, the Navajo Nation has agreed to settle with the State of New Mexico for 56% of New Mexico's entire allocation and with priority dates starting in 1868.¹⁰ However, that settlement is still pending congressional approval. Furthermore, only one third of the Navajo Nation will be serviced from the water in the settlement if it is approved.

The balance of the Navajo Nation is in Arizona, 18,119.2 square miles, and Utah. The Navajo Nation has the right to demand sufficient water to put the all of the irrigable land on the reservation to a beneficial use. Unfortunately, the amount of irrigable land is still heavily contested. There are 11,601,856 acres of Navajo Nation Land within Arizona, under the precedent in the Consolidated Decree the Navajo Nation could claim an average of 6 af per irrigable acre on the reservation.¹¹ Under the Law of the River the water would be charged against Arizona's allocation. Furthermore, the Consolidated Decree has determined that anywhere between thirty and seventy percent of a tribe's reservation may be irrigable.¹² However, Public Law (87-483) designated 110,630 acres of the Navajo Nation reservation

⁹ Navajo Indian Irrigation Project, Public Law 87-483, (1962).

¹⁰ *New Mexico v. U.S.*, CIV. 75-418. See THE SAN JUAN RIVER BASIN IN NEW MEXICO NAVAJO NATION WATER RIGHTS SETTLEMENT, April 19, 2005.

¹¹ *AZ v. CA*, 547 U.S. 150, 126 S.Ct. 1543

¹² *Id.*

located in New Mexico as irrigable, or roughly, two percent, a more realistic number when looking at the Navajo Nation.¹³ Therefore, if the Navajo Nation can prove that 232,037 of the total reservation in Arizona is irrigable then the Navajo Nation could claim as much as 1.4 maf, or approximately one half of Arizona's total apportionment under the BCPA.¹⁴

COMMENTS

FACT SHEET

1. The Fact Sheet states that four action alternatives and a no-action alternative are included in the DEIS. Additionally, the Fact Sheet states that two of the four action alternatives were developed based on comments from parties outside the Bureau of Reclamations. Please identify the cooperating agencies, stakeholders, and other interested parties that are mentioned as providing input for the two action alternatives. Other stakeholders and interested parties would be more likely to provide meaningful input into the DEIS if it was clear who had already participated in the drafting process.

2. The Fact Sheet also states that the purposes of the proposed federal actions are to: (1) improve Reclamation's management of the Colorado River by considering the tradeoffs between the frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, water supply, power production, recreation, and other environmental resources; 2) provide mainstream U.S. users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions; and, 3) provide additional mechanisms for the storage and delivery of water supplies in Lake Mead. With the increase in demand on water use projected in the Upper Basin

¹³ Navajo Indian Irrigation Project, Public Law 87-483, (1962).

¹⁴ Boulder Canyon Project Act of 1928

states and pending determinations of Tribal reserve water rights, the purpose should include identification and resolution of those issues to avoid future conflicts during times of drought.

CHAPTER 1: PURPOSE AND NEED

1. Section 1.3 Purpose of and Need for Action. The DEIS statements for the need for action fail to mention anything about the known effects of climate change on the future supply of water for the Colorado River Basin. The harms associated with global climate change were recently recognized in by the Supreme Court in *Massachusetts v. EPA*.¹⁵ Among the known harms that will directly affect any shortage plan in the Colorado River Basins is a significant reduction in winter snowpack in the Rocky Mountains.¹⁶

2. Additionally, Section 1.3 fails to account for the recent 9th Circuit decision that vacated an injunction against lining the All American Canal to reduce seepage into Mexico.¹⁷ Under the *Mexicali* decision the seepage water that currently enters Mexico from the canal will be reclaimed for use in the Imperial Valley Irrigation District. This will further reduce the amount of water that enters Mexico to meet treaty obligations.¹⁸ Although it was assumed that this seepage water was not part of the treaty allocation it has become relied upon by Mexico and will have to be replaced from another source in the Lower Basin. Additionally, where the seepage has replaced the in-stream flows into Mexico it may have the original priority date set by the treaty of 1944.¹⁹

3. Section 1.5.1 Affected Region and Interests: limits the scope of the DEIS to the Lower Basin. It is well documented that there is a hydrological nexus between the Upper and Lower

¹⁵ *Massachusetts v. EPA*. 2007 WL957332 (U.S.)

¹⁶ *Id.* at 12-17

¹⁷ *Consejo de Desarrollo Economico de Mexicali, A.C. v. U.S.* 2007 WL1054271 (9th Cir(Nev.)).

¹⁸ *Id.*

¹⁹ See Treaty Between the United States of America & Mexico Respecting Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande ["1944 Treaty"], 59 Stat. 1219, T.S. No. 994, Section III, Art. 10 (Nov. 8, 1945).

Basin States.²⁰ If the interim guidelines for Lower Basin shortage operations are based on the assumption that a minimum of 8.23 maf of water will be available for release annually from Glen Canyon Dam then the affected region includes all of the Upper Basin states. Under current and future projected precipitation the total per annum flow through the basin is, and will continue to be, less than 15 maf.²¹

CHAPTER 2: DESCRIPTION OF ALTERNATIVES

1. Section 2.1 Development of Alternatives: Although there is discussion of encouraging conservation under one of the four action alternatives, there is no inter-basin strategy to reduce demand for water resources through an increased emphasis on conservation. With a growing demand and diminishing supply the Conservation Before Shortage Alternative is the only alternative that realistically attempts to address the larger problem. However, without an inter-basin coordinated management alternative any savings realized in the Lower Basin will be lost to the ever decreasing supply available from the Upper Basin. Furthermore, all published alternatives require an unrealistic minimum annual inter-basin transfer of 8.23 maf through Lee's Ferry and follow the same Shortage priority

2. Section 2.2.1 Shortage Guidelines: The DEIS discusses the Secretary's current options under the Law of the River as placing California's claims ahead of Arizona. In effect, under this interpretation, California would not incur a shortage until all Arizona post 1968 contracts were reduced completely, including the Central Arizona Project. However, there is no discussion of allocation to the tribes and specifically the Navajo Nation during a shortage. The Navajo Nation

²⁰ See generally, Pontius, Dale, Colorado River Basin Study: Report to the Western Water Policy Review Advisory Commission, <http://hdl.handle.net/1928/2782> (1997)

²¹ See Niklas S. Christensen, *The Effects of Climate Change on the Hydrology and Water Resources of the Colorado River Basin*, Climatic Change 62: 337-363 (Kluwer Academic Publishing, Netherlands, 2004).

has a water right as of September 9, 1850.²² Under the *Winters' Doctrine* the Supreme Court recognized the water rights of the tribes as the time that the reservation was created under the treaty.²³ Additionally, the Supreme Court quantified the right as an amount sufficient to make use of the reserved land in the manner for which they are reserved.²⁴ However, the actual acre feet reserved to the Navajo Nation has yet to be determined. Any interim or long term shortage strategy must include an accurate accounting of the water available to the Upper and Lower Basin states after the prior perfected rights are quantified and apportioned. Finally, in 1922 the Colorado River Compact solidified that the Indian reserve water rights were not to be affected by the Compact or later statutes or decisions.²⁵

CHAPTER 3: AFFECTED ENVIRONMENT

1. Section 3.4.1 Apportionments to Upper Basin States: explains the apportionment to the Upper Basin states by percentage. Appendix C includes a depletion schedule projected through 2060 based on current and projected uses. Section 3.2.1.1 identifies that the Navajo Nation is riparian to a portion of Reach 1 defined as Gypsum Canyon to Glen Canyon Dam. Section 3.3.2 Lake Powell and Glen Canyon Dam: states that the Navajo Generating Station takes water directly from the Lake Powell for use as cooling water. The depletion schedule in Appendix C limits use within Arizona to 50 kaf. The amount currently used by the Navajo Generating Station is 34,100 af. The balance of the 50 kaf is already allocated to beneficial uses within the portion of the Navajo Nation in the Upper Basin. The Navajo Nation has agreed not to make demands additional demands against Arizona's Upper Basin apportionment greater than 50 kaf

²² 9 Stat. 974.

²³ *Winters v. United States*, 207 U.S. 564 (1908)

²⁴ *Arizona v. California*, 373 U.S. 546, 600 (1963).

²⁵ See article 4(a), Colorado River Compact (St. Cal. 1929, p. 4).

before 2018.²⁶ However, this amount does not account for the total prior perfected right of the Navajo Nation in the Upper or Lower Basin.

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

1. Section 4.15 Environmental Justice: explains the methodology and consequences of the ISG on the 9 identified Environmental Justice counties within the Lower Basin states. Because the alternatives all follow the same priority for reductions in deliveries to the respective water users there is no significant difference to the environmental justice communities under any alternative. However, Executive Order 12898 directs agencies to identify and address, as appropriate, disproportionately high and adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations.²⁷ The tribes have historically been left out of the discussions regarding allocations of water throughout the basin. Any plan that does not take into account the Indian reserve water rights, and specifically the reserve water rights of the Navajo Nation, will ultimately have a disproportionately high and adverse impact on the low-income populations on the reservations. By failing to identify and secure the water rights of the Navajo Nation now the agency is effectively maintaining the status-quo by allowing junior water-rights holders to continue to appropriate water ahead of their priority date. Additionally, the longer the agency waits to rule on the quantity due to the Navajo Nation the more severe the impact and the greater the estoppel argument against the prior perfected rights of the Navajo Nation. Without a final decision the junior appropriators are far more likely to continue to litigate the matter as long as they can and are allowed to use the water during litigation. The ISG should take into account the amount of water that the Navajo Nation can put to a beneficial use on the existing reservations.

²⁶ See Navajo Nation Council Resolution CD-108-68.

²⁷ Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, **59 FR 7629 (1994)**.

CONCLUSION

None of the proposed alternatives have significant differences to environmental impacts or on environmental justice issues. There are no alternatives relating to the actual significant government action that is affecting the human environment, specifically the Interim Shortage Guidelines and the priority of imposing shortages is the substantially the same in each alternative. Essentially, all of the current alternatives follow the same shortage sharing modeling assumptions. The ISG then imposes shortages in the same priority without any regard for the actual quantity of available water after consideration of the Federal Reserve Indian Water rights of the Navajo Nation. Finally, the Scope of the Environmental Impact Statement needs to be reevaluated to adequately address the effects of the ISG on minority and low-income populations that stand to be affected by the Federal Action in accordance with EO 12898.

Respectfully yours,

Orion Inskip
Seattle University – School of Law
Class of 2008

>>> Lana Jones <lana.jones@arizona.edu> 04/23/07 03:07PM >>>

Dear Bureau of Reclamation:

I'm writing to comment on the Draft EIS Interim Guidelines for Lower Basin Shortages.

In Chapter 4, page 4-265, lines 35-37 the range for reduced consumptive use of 4.2 to 6.9 af per acre is attributed to Colby et. al. 2006 but there is no entry for Colby in the References Cited,

page Ref-4.

In Colby B., K. Pittenger and L. Jones. "Voluntary Irrigation Forbearance to Mitigate Drought Impacts: Economic

Considerations" water application rates range from 3.5 to 5.8 af/acre. These rates comes from "Estimated Quantity of

Water Applied and Method of Distribution by Selected Crops Harvested:

2003 and

1998." 2003 Farm and Ranch Irrigation Survey Census of Agriculture,

2002 Census

of Agriculture,

http://www.nass.usda.gov/census/census02/fris/tables/fris03_28.pdf.

In brief, the range of consumptive use reduction in the dEIS seems high compared to the application rates found in the

irrigation survey.

Best regards,

Lana Jones

Graduate Research Assistant

Agricultural & Resource Economics

University of Arizona

From: Suzanne Kruger [soozikruger@webtv.net]
Sent: Friday, April 06, 2007 1:15 PM
To: strategies@lc.usbr.gov
Subject: Comments for Operations at Lake Powell & Lake Mead under Low Reservoir Conditions

Dear Mr. Johnson and Mr. Gold:

Lake Powell and Lake Mead lose 17 percent of the water that flows into them through evaporation. Vacant space in underground aquifers near existing Colorado River water recharge facilities could store more water than these two reservoirs combined. Upwards of 810,000 acre-feet of water annually could be saved by eliminating Lake Powell and operating Lake Mead principally for distribution to groundwater recharge facilities.

After more than 40 years of operation, it was not until the fall of 2004 that Lake Powell's water storage actually augmented downstream water use. And with the impacts of climate change and rising water consumption, it is unlikely that there will be sufficient surplus water to fill Lake Powell again. Even should surplus water accumulate, Lake Mead alone could provide sufficient storage.

Between Lake Powell and Lake Mead lies Grand Canyon National Park. The operation of both these reservoirs has impacted the Canyon, but Glen Canyon Dam at Lake Powell has been far more devastating. Since the dam's completion four of eight native fish have gone extinct and the dam has trapped the sediment necessary to maintain habitat and beaches for wildlife and recreation, as well as the stabilization of archeological sites.

Sediment is a major unresolved problem threatening the long-term operations of Lake Powell and Lake Mead. Ultimately, sediment must be removed to ensure public safety. Removing sediment from Lake Mead downstream, rather than Lake Powell upstream is the most technically feasible, least costly and environmentally advantageous approach.

The Colorado River Compact of 1922, which largely governs the operations of Lake Powell for Lake Mead, cannot meet its intended purpose of equitably sharing Colorado River water between the Upper and Lower Basin states. With River flows expected to decline 18 percent by 2040, this inequity will worsen, furthering the need for Compact amendments while highlighting the benefits of eliminating Lake Powell to fulfill the Compact's primary objective.

Suzanne Kruger
rt.2, box 1008
Harpers Ferry, WV 25425

>>> "Doyle Wilson" <WilsonD@lhcaz.gov> 04/27/07 03:34PM >>>
Dear Bureau of Reclamation,

Attached are comments by Lake Havasu City, Arizona on the Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead. A hard copy of the comments will be mailed to your office.

Thank you for the opportunity to participate in this process.

Doyle Wilson, Ph.D., PG

Water Resources Coordinator

Lake Havasu City, AZ



PUBLIC WORKS DEPARTMENT
LAKE HAVASU CITY

Administration/Engineering Division
Email: publicworks@lhcaz.gov
Phone: (928) 453-6660
Fax: (928) 453-8502

FAXED, EMAILED AND MAILED

April 27, 2007

Regional Director
Lower Colorado Region, Bureau of Reclamation
Attention: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

RE: Lake Havasu City Comments Regarding the Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

Dear Regional Director:

Lake Havasu City, Arizona, which holds a 4th priority mainstream Colorado River Water contract with the Bureau of Reclamation (Contract No. 3-07-30-W0039), submits the following comments to the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement (DEIS - February 2007).

Lake Havasu City favors the Basin States Alternative as the preferred alternative as this alternative addresses the scope of the changes to reservoir operations. The City, although not adverse to the Conservation Before Shortages Alternative (and would probably benefit more in the short term), believes that the mechanism of voluntary shortages is not sufficiently clear in the DEIS and could lead to operational problems. The other three alternatives would not be beneficial to the City in the long run. Although the Water Supply Alternative would delay shortages for quite awhile and give the City more time to prepare for reductions in water delivery, the shortages that would result from this alternative could greatly impact the city.

Several critical issues are not sufficiently addressed in any of the DEIS alternatives including:

- Lake Havasu City along with other 4th priority mainstream users in Arizona have been largely ignored in the DEIS process, even though they will proportionally carry the brunt of the shortages. There will definitely be socioeconomic impacts along the river and on the city, particularly in generating new sources for water acquisition, such as the expected escalation in costs to recovery and replacement of firmed water taken from the Arizona

Water Banking Authority, and costs associated with acquiring other water sources such as fallowing deals with agricultural interests.

Due to significant restrictions on water use during shortage years, the city's economy and population growth are expected to noticeably slow. Although the water level of Lake Havasu will probably remain unaffected during shortages, tourism may suffer, especially businesses associated with accommodations and restaurants, when water consumption restrictions are in place (a consideration not addressed in sections 3.12 or 4.12.5 in Volume I of the DEIS).

- Furthermore, Stage I and Stage II shortage-sharing modeling assumptions (discussed in Section 4.2.7.1 on pages 4-9 through 4-11), although run by the letter of the law, may not be practical in the sense that Stage II shortages are implemented only when supplies to Arizona 4th priority users have been totally cut off. In essence, the consequences of such an eventuality that would lead to the displacement of tens of thousands of people from Lake Havasu City, Bullhead City, and various smaller communities have not been considered. Laughlin, Nevada would also suffer as that community relies on citizens and businesses of Bullhead City to operate normally. None of the Arizona communities have enough firmed water banked to cover multi-year shortages of that magnitude. The socioeconomic impacts would not only affect the region, but also at the state and federal level, not unlike the evacuation from New Orleans. As the probabilities are very low that Stage II shortage-sharing would be instituted within the 19 year interim period, that adjudication would "muddy the waters" of such an action, and since this operation measure has not been adequately addressed in the DEIS, it should be deleted as part of the operational policy of the interim period until a closer examination of the overall effect is implemented.
- Who can participate in the Intentionally Created Surplus (ICS) mechanism is stated as unknown on page 4-12 (section 4.2.8) in the DEIS. Table 4.2-3 on page 4-13 shows that the ICS predominantly helps Nevada (to mitigate their conservation projects), but Arizona may take advantage during normal years. In Arizona, the Central Arizona Project's (CAP) contract with the Bureau of Reclamation (BOR) includes a clause stating that this agency may take any unused water allotted to other Arizona contracts. What is the legality of a Record of Decision resulting from this EIS that includes a statement indicating all Arizona water providers with BOR contracts may participate without the threat of the CAP's assertion that they could use that water? The first M&I contracts to be affected by the shortages are from the on-river 4th priority users and this group (although admittedly small) would benefit the most if they could participate since there are limited options to obtain water from other sources. Our concern is that in Arizona, only the CAP would benefit from conserved storage the way the law is currently devised. Computer models from the Arizona Department of Water Resources (ADWR) indicate

that the CAP M&I users will not be directly impacted from the 400K – 600K reductions because of the way the CAP is structured. Much or all of the shortage borne on the CAP can be absorbed from their storage programs and agricultural entities.

- In Appendix D, Table D-1f on page D-6, the depletion schedule for Lake Havasu City used in the hydrologic modeling does not look correct. These numbers appear to be diversion volumes that ADWR provided to the BOR for Lake Havasu City, but they are not consumptive use values using calculated annual return flows. Although page 4-4 in section 4.2.3 of the DEIS states that the depletions include return flow credits where applicable, the numbers in Table D-1f do not reflect the 38% unmeasured return flow rate as calculated by the BOR for Lake Havasu City. The 12,322 ac-ft value for 2008 listed on Table D-1f is too low for a diversion number, particularly since the City's requested allocation for 2008 will likely be a bit higher than the 2007 allocation request of 16,079 ac-ft. The table also lists a use of 20,378 ac-ft by 2060, yet city projections based on population estimates from the Arizona Department of Economic Security and using a per capita rate of 250 gpcd, Lake Havasu City will reach its diversion entitlement of 25,180 ac-ft (15,611 ac-ft consumptive use) by 2040 under normal Colorado River supply years.

Bullhead City representatives say that their depletion schedule is also not reflective of their current situation. If these discrepancies are more widespread, than a possible underestimation of the probabilities, timing, frequency, and affects of shortages to the Arizona 4th priority users may result. The hydrologic model output sensitivity to this parameter is expressed on page 4-6 of Section 4.2.6 in the DEIS.

- ADWR has approximately 10,000 ac-ft of unallocated 4th priority water (according to ADWR or a "few thousand acre-feet" according to page 1-15 in the DEIS), which could possibly be made available to those affected by the shortage scenarios, yet this is not covered in the DEIS. It would seem that the unassigned allocation would be part of the Arizona shortage prior to contracted water.
- Lastly, the Supreme Court's Consolidation Decree of 2006 is mentioned several times (first mentioned on page 1-1 and in Table 1,7-1 (although somewhat out of place)) in the DEIS, but no reference to the specifics of the decree are given, only quick references as if everyone already knows the implications of the legal action. The decree is also not easily accessible on the internet as I had to ask a BOR employee to find it for me. It should be spelled out more in the DEIS.

Lower Colorado Region, Bureau of Reclamation
April 27, 2007
Page 4

Lake Havasu City appreciates the opportunity to express its concerns covering this very important document. If you have any questions, please contact me at (928) 453-6660 x4319 or at wilsond@lhcaz.gov.

Sincerely,

A handwritten signature in black ink that reads "Doyle Wilson". The signature is written in a cursive, flowing style.

Doyle Wilson
Water Resources Coordinator

DW:sw

c: Richard Kaffenberger, City Manager
Kevin Murphy, Public Works Director
Robert P. Leuck, P.E. Deputy Public Works Director
Kelly Garry, Assistant City Attorney

>>> "John Weisheit" <john@livingrivers.org> 04/30/07 3:15 PM >>>
Hello Nan,

Comments on Draft Environmental Impact Statement for Colorado River Interim
Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and
Lake Mead.

Two attachments:

- 1) pdf file
- 2) Microsoft Word file (Word for MacIntosh)

Please do not hesitate to contact me should you have any questions.

Sincerely,

John Weisheit
Living Rivers
435-259-1063
Cell: 435-260-2590



PO Box 466
Moab, UT 84532
435.259.1063

info@livingrivers.org

April 30, 2007

Regional Director, Lower Colorado Region
Bureau of Reclamation, Attn: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Sent via email: strategies@lc.usbr.gov

Re: Comments on Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Dear Regional Director,

Living Rivers/Colorado Riverkeeper and the Center for Biological Diversity submit the following as comments on the Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (DEIS).

With this DEIS, it was hoped that the seven basin states and the Bureau of Reclamation (Reclamation) would take an important step in articulating the need for, and response to, the increasing likelihood that Colorado River water users will experience shortages. It was assumed that in this era of uncertainty surrounding Colorado River hydrology that Reclamation would hold true to its mission to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Unfortunately, the DEIS fell well short in meeting these expectations.

When the public hears the word "shortages," the term most commonly associated with this initiative, it wants to know how much, and the appropriate actions necessary to respond. While the DEIS has provided answers, the response leaves the public with little confidence that the principle agency responsible for managing the Colorado River water supplies has a full grasp of the problems now before it, nor a commitment to charting a path to overcome them.

- Baseline Conditions Not Properly Defined

The potential for shortages on the Colorado River have been mounting long before the emergence of the current drought. The over-allocation of water due to improper assumptions as to the Colorado River's mean inflow has reached the point where shortages, which never occurred in the past, will shortly be inevitable. Reclamation is

repeating the same mistake by using a 15.0 million acre-feet (maf) mean inflow projection well above the paleo-climate reconstruction estimates of 13.0-14.7 maf. If the observed flows of 14.2 maf of the past 50 years were to be used as a guide, the Basin States proposal would be of little value, and Upper Basin water users would be destined to restrict their consumption to meet their delivery requirements to the Lower Basin.

- Climate Change Does Not Exist?

Reclamation's modeling excluded any analysis of the potential for the region's rising temperatures to further impact future streamflow. Study after study from the nation's leading research centers now point to reduced flows on the Colorado River in the years ahead: ranging from 10 percent over the next century to upwards of 50 percent by 2050. As the National Research Council reported in February, while there may be uncertainty as to the magnitude of change, flows on the Colorado River are expected to reduce. Even the most modest reduction in flows, five percent over the 53-year forecast period, would create shortages far in excess of what the DEIS has contemplated.

- Conservation Measures Undefined

While a program for banking conserved water in Lake Mead is contained in the Basin States proposal, this program appears speculative as to the level of participation, or how it assures a decreasing reliance on Colorado River water commensurate with the level of shortages Nature may impose.

We fully recognize the dilemma faced by Reclamation in developing this DEIS. Had it undertaken a thorough evaluation, addressing the range of uncertainty regarding mean streamflow and climate, the Basin States initiative would have looked far too meager a response to warrant much consideration. However, Reclamation's principle mission, especially during these uncertain hydrologic times, should be to present as unbiased and as clear picture of what the future might be, not what a select group of politicians and/or special interests want it to look like.

1. Baseline Conditions Not Properly Defined

Reclamation must present a clear picture to the public of the real challenge facing Colorado River water users. The system's over-allocation is now creating an imbalance that requires shortages to become the norm, not rare events that may result from extended dry periods. These are not problems necessitating detailed study to understand nor sophisticated computer models to simulate, yet Reclamation neglects to offer such critical background information to the public.

As illustrated in Table 1, employing Reclamation's own assumptions, in 2008 it is projected that the Colorado River will provide an operating surplus of just 2.7% (400,000 af), shifting to an annual net shortage of 3.3% (-490,000 af) by 2060. This latter figure is little different from the extensive results offered by Reclamation's own model discussed in Chapter 4, Section 4 of the DEIS.

Table 1
Colorado River Water Balance

	<u>2008</u>	<u>2060</u>
<u>Inflows</u>		
Mean Inflows at Lees Ferry	15.03	15.03
Gains between Glen Canyon Dam and Hoover Dam	0.77	0.77
Gains below Hoover Dam	<u>0.50</u>	<u>0.50</u>
Total System Inflows	16.30	16.30
<u>Outflows</u>		
Upper Basin depletions	(4.54)	(5.43)
Lake Powell evaporation	(0.56)	(0.56)
Lake Mead evaporation	(0.80)	(0.80)
Lower Basin & Mexico consumption	(9.00)	(9.00)
Evaporation and operational losses below Hoover Dam	<u>(1.0)</u>	<u>(1.0)</u>
Net System Balance	0.40	(0.49)

Although this imbalance is what is now driving the Basin States to develop a plan for shortages, nowhere in the DEIS are such basic issues and mathematics surrounding the system's over-allocation addressed. It is not the drought that is forcing this EIS. Nor is it the potential intervention by the Secretary of Interior should Lake Mead fall below 1,025 msl as stated in the Purpose and Need. These are all secondary to the main issue: the Colorado River has reached its limit, yet plans are underway to take more water.

It's vital that Reclamation ensures the public is fully aware of this dynamic, since it illustrates how sensitive the system has now become to changes in inflow, and thus how critically important inflow assumption are for Colorado River planning purposes.

Reclamation, however, has avoided any frank discussion on the likelihood of, or impacts resulting from, a reduction in the forecasted mean inflow of 15.0 maf used in its modeling. Reclamation offers the public only this, "However, 99-year record period is a relatively short time frame, and it is possible that future flows may include periods of wet or dry conditions that are outside of all the possible sequences seen in the historical record."

This is an amazingly cavalier attitude since Reclamation knows better than most how foolhardy reliance on merely observed streamflow records can be. History has already proven that mistakes in forecasting future mean streamflow on the Colorado can lead to major problems down the road. It is precisely such a misadventure that is behind the imbalance the system now experiences. This DEIS is underway now because those who signed-off on the Colorado River Compact of 1922 mistakenly believed in their mean Lees Ferry streamflow calculations of 16.4 maf. In allocating just 15 maf, they assumed a nearly ten percent buffer. A buffer we've longtime known is not there. Scientists concur that the period used by Compact drafters was the wettest in the past 1,200 years, and have also concluded the 20th century to be one of the wettest overall. Knowing this, it

seems imprudent to assume future flows will necessarily be so benevolent.

As the National Research Council (NRC) stated in its recent report, “Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability,” relying on gage data alone is a somewhat antiquated practice.

“For many years, scientific understanding of Colorado River flows was based primarily on gaged streamflow records that covered several decades. Recent studies based on tree-ring data, covering hundreds of years, have transformed the paradigm governing understanding of the river’s long-term behavior and mean flows. These studies affirm year-to-year variations in the gaged records. They also demonstrate that the river’s mean annual flow—over multi-decadal and centennial time scales, as shown in multiple and independent reconstructions of Colorado River flows—is itself subject to fluctuations.”

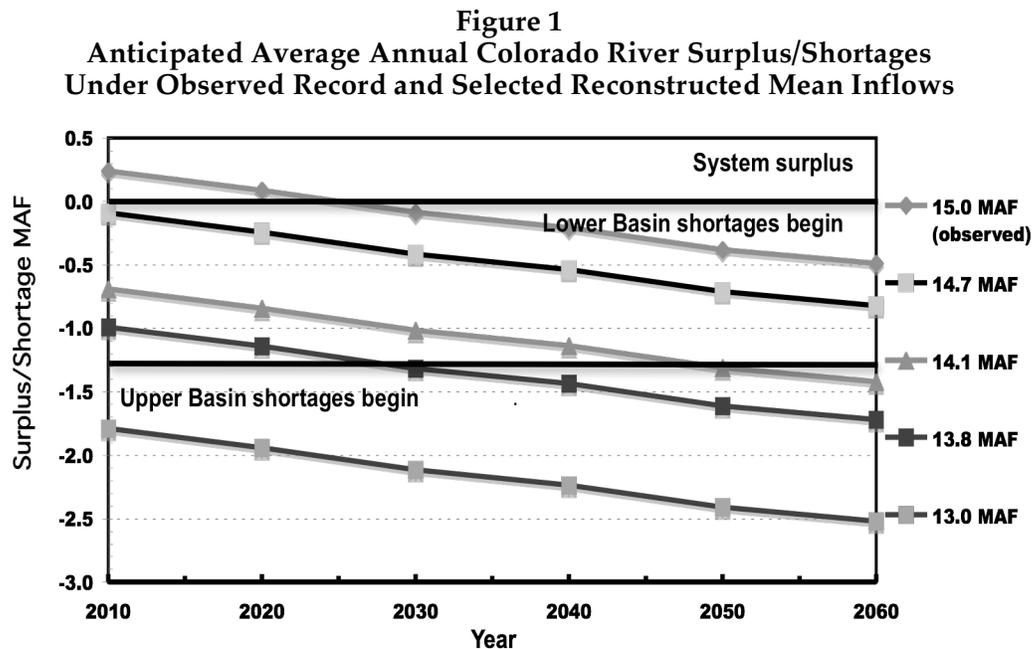
The studies the NRC authors refer to all estimate a long-term mean streamflow at Lees Ferry below the 15.0 maf mean uses by Reclamation in the DEIS.

Table 2
Reconstructions of Colorado River
Mean Flows at Lees Ferry

<u>Author (year)</u>	<u>Reconstruction Period</u>	<u>MAF</u>
Stockton and Jacoby (1976)	1511 / 12 / 20-1961	13.0 – 14.15
Michaelsen et al. (1990)	1568-1962	13.8
Hidalgo et al. (2000)	1493-1962	13.0
Woodhouse et al. (2006)	1490-1997/98	14.1 – 14.7

These paleoclimatic reconstructions illustrate that it is not only possible, but growing evidence suggests that the observed mean streamflow being used by Reclamation is too high. Surprisingly, nowhere in the DEIS is this fundamental assumption addressed, merely the disclaimer that the model may misrepresent the future because of its reliance on the observed record.

Here again, a sophisticated model is not necessary to illustrate the significant impacts changes in mean streamflow would have on the imbalance growing in the system. Figure 1 uses the information from Tables 1 and 2 to estimate the net annual shortages Colorado River water users will experience should the mean inflow be less than 15.0 maf Reclamation projects. Figure 1 also illustrates how, should future flows drop to 14.1 maf annually, shortages will likely occur in both the Upper and Lower Basins—not just the Lower Basin as forecasted in the DEIS. Furthermore, this 6.2 percent reduction in the mean streamflow is sufficient to generate average annual shortages right now in excess of the 400,000 – 600,000 af shortage policy at the heart of the Basin States alternative. Evaluating a reduction of this magnitude is hardly inappropriate as it is very close to the observed mean of 14.2 maf from 1950 to the present.



To its credit, Reclamation does provided some alternative flow sequences summarized in Appendix N. However, no analysis was performed on the potential impacts should the observed mean streamflow prove inaccurate in projecting future Colorado River flows. Two of the three scenarios used relied on the observed record to simulate flows with greater variability, but not significant reductions in mean flow volumes. The third alternative sequence, Direct Paleo, used Woodhouse data with a mean of 14.6 maf. This offered a glimpse into the type of sensitivity analysis that should be undertaken on the full range of reconstructed streamflow estimates. The likelihood of shortages rose from 70 to 80 percent in 2060, with shortages in excess of 2 maf five percent of the time—shortages not forecasted using the observed mean of 15.0 maf. To these changes Reclamation offers just the following commentary on the Direct Paleo results.

“The Direct Paleo scenario underestimates the observed mean, as expected, because this paleo reconstruction has a lower mean (14.6 million acre-feet [maf]) than the observed period (15.0 maf). ...The Direct Paleo is able to generate much lower flows than observed, approximately 3.7 maf lower five percent of the time. It was expected the Direct Paleo would generate lower flows than observed as these are characteristic of Lees Ferry streamflow reconstructions.” Pages N-4/5)

To limit such an important discussion to known statistical differences without any background as to why these differences exist, and that surrounding them is a whole body of work that suggests that Reclamation is over-estimating the mean annual flow, is not only misleading, but wholly inappropriate given the issues at stake should Reclamation’s assumptions be wrong.

As Table 2 illustrates, Reclamation’s choice of reconstruction data with an annual mean of 14.6 maf is at the top end of the mean flow estimates by paleo-reconstruction

researchers. While the data used for its Direct Paleo scenario is among the most recent, the National Research Council further notes there is not yet consensus on which reconstruction may be most appropriate for planning purposes. Therefore, Reclamation must not limit its discussion of alternative hydrologic sequencing to merely a brief analysis of one reconstruction data set. It must fully analyze the full range of variability advanced by researchers so that both Reclamation and the public can be sufficiently informed to evaluate the alternatives for the proposed action.

2. Climate Change Does Not Exist?

Even more alarming than Reclamation's unwillingness to objectively address what constitutes an appropriate historical mean streamflow, is the agency's policy to wholly ignore the recommendations of climate scientists who are warning with increasing regularity of the inevitability of reduced Colorado River flows in the decades ahead.

The most recent alert arrived this month in the April edition of *Science Magazine*. The Lamont Doherty Earth Observatory of Columbia University forecasts that drier climatic conditions are already taking hold in the Southwest. Droughts similar to what the region is now experiencing will become more common, and the respites in between will generate less precipitation than in the past.

" Here we show that there is a broad consensus amongst climate models that this region will dry significantly in the 21st Century and that the transition to a more arid climate should already be underway. If these models are correct, the levels of aridity of the recent multiyear drought, or the Dust Bowl and 1950s droughts, will, within the coming years to decades, become the new climatology of the American Southwest."

In the National Research Council's report released six weeks earlier it was emphasized that the trend toward rising temperatures in the Colorado River basin will continue, thus further stressing water supplies.

"Any future decreases in Colorado River streamflow, driven primarily by increasing temperatures, would be especially troubling because the quantity of water allocations under the Law of the River already exceeds the amount of mean annual Colorado River flows. This situation will become even more serious if there are sustained decreases in mean Colorado River flows. Results from these numerous hydroclimatic studies are not unanimous, and all projections of future conditions contain some degree of uncertainty. Nevertheless, the body of climate and hydrologic modeling exercises for the Colorado River basin points to a warmer future with reductions in streamflow and runoff."

To illustrate this range of forecasts one need look no further than the two most recent papers released that address the Colorado River specifically. Both used models contained in the Intergovernmental Panel on Climate Change (IPCC), 4th Assessment released in February.

In Christensen, et al. 2007, University of Washington, it was found that mean results from eleven models generated reductions of annual streamflow at Lees Ferry from eight to eleven percent toward the end of the century: "Although our results show somewhat

smaller (ensemble mean) reductions in runoff over the next century than in previous studies (Christensen et al, 2004 in particular), the reservoir system simulations show nonetheless that supply may be reduced below current demand which in turn will cause considerable degradation of system performance.”

In Hoerling, et al., 2006, NOAA Earth System Research Laboratory, where 12 models were employed, a much more dramatic changes to the mean flow at Lees Ferry was forecasted: “Relative to the 1990-2005 mean flow of 13 maf, the 42-run average projects a 25 percent decline in streamflow during 2006-2030, and a 45 percent decline during 2035-2060.”

In 2005, Milly, et al., NOAA Geophysical Fluid Dynamics Laboratory, 12 models contained in the IPCC 4th Assessment were also used to assess future Colorado River flows. The results projected reductions in the Colorado River flows from 10 to 30 percent by 2050.

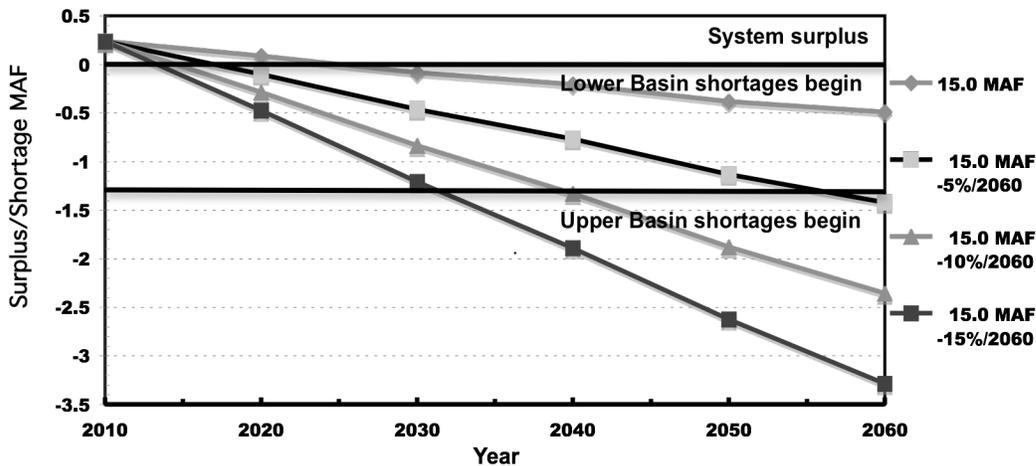
In the face of such mounting evidence, Reclamation remains steadfast in using its 15.0 maf observed mean streamflow to evaluate proposed alternatives designed to address shortage conditions. However, if the projections contained in the findings of any of the above researchers prove accurate, such conditions would dramatically, if not entirely eliminate, the viability of the proposed alternatives to cope with the scale of shortages Nature may deliver during Reclamation’s forecast period.

As illustrated in Table 3 and Figure 2 below, assuming the most modest projections of just a 5 percent increase over the next 50 years, the Colorado River system will begin to force shortages in both the Upper and Lower Basins by 2060. Albeit crude, the results of such calculations are not inconsistent with past research. As Nash et.al, reported in 1993, a 5 percent reduction on Colorado River flows would indeed begin to stress the Upper Basin’s ability to meet its Colorado River Compact obligations.

Table 3
Estimated Impact of Inflow Reductions
On Colorado River Water Balances in 2060
Using 15.03 maf Observed Mean Streamflow

	<u>Reduction</u>			
	0%	-5%	-10%	-15%
<u>Inflows</u>				
Mean Inflows at Lees Ferry	15.03	14.28	13.53	12.78
Gains between Glen Canyon Dam and Hoover Dam.	0.77	0.73	0.69	0.65
Gains below Hoover Dam	<u>0.50</u>	<u>0.48</u>	<u>0.45</u>	<u>0.43</u>
Total System Inflows	16.30	15.49	14.67	13.86
<u>Outflows</u>				
Upper Basin depletions	(4.54)	(5.43)	(5.43)	(5.43)
Lake Powell evaporation	(0.56)	(0.59)	(0.62)	(0.64)
Lake Mead evaporation	(0.80)	(0.84)	(0.88)	(0.92)
Lower Basin & Mexico consumption	(9.00)	(9.00)	(9.00)	(9.00)
Evaporation and operational losses below Hoover Dam	<u>(1.00)</u>	<u>(1.05)</u>	<u>(1.10)</u>	<u>(1.15)</u>
Total System Losses	(15.90)	(16.91)	(17.03)	(17.14)
Net System Balance	(0.40)	(1.42)	(2.36)	(3.29)

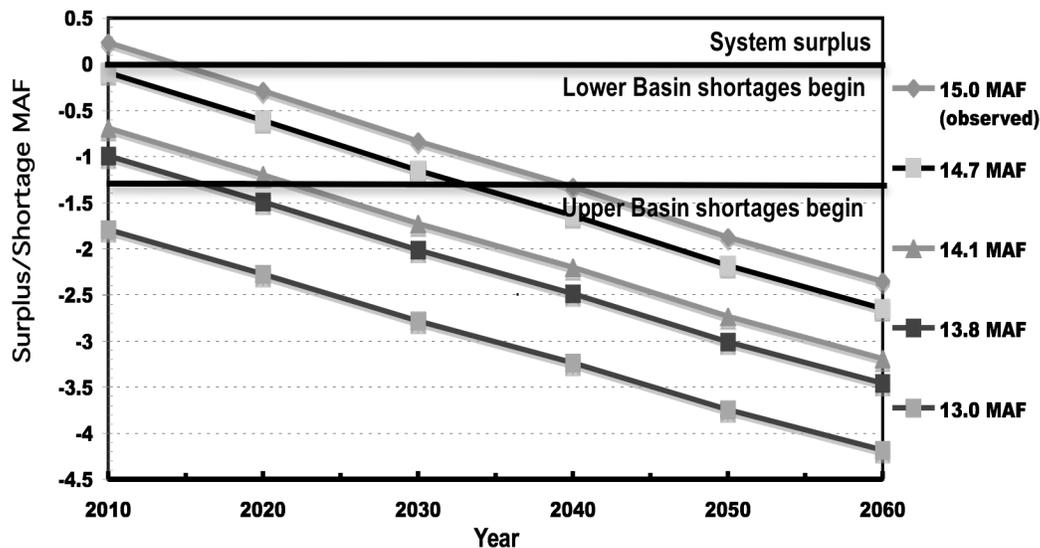
Figure 2
Estimated Impact of Inflow Reductions on Colorado River Shortages 2010- 2060
Using 15.03 maf Observed Mean Streamflow



These estimated shortages are all calculated assuming Reclamation's 15.0 maf streamflow. As noted above, there is significant evidence that suggest that reliance on the observed record my significantly over-estimate the system's ability to avoid shortages. Moreover, as the Hoering analysis illustrated, models themselves rely on

different mean streamflows when making their forecasts. As such, it's instructive to also examine how shortage conditions may change depending on the mean streamflow the climate change reduction factor are applied to. Figure 3 illustrates how a 10% reduction in flows attributed to climate change would impact the same reconstructed streamflow estimates from Figure 1.

Figure 3
Estimated Impact on Colorado River Shortages 2010- 2060
Assuming a 10% Inflow Reduction to Observed, and Selected Reconstructed Mean Inflows



While nobody yet knows if any of the scenarios outlined in Figures 2 and 3 above will pass by Lees Ferry in the coming decades, all estimates are well within the range of projections that have been made by climate researchers to date. Needless to say, all forecast shortages well beyond the range contemplated by the DEIS.

For Reclamation to project future Colorado River shortages while ignoring such overwhelming evidence is of an error of magnitude far greater than mistakes made by those who framed the Compact 85 years ago. Then, just a few people were asking that caution be exercised given the limited data at hand. Now society is faced with the reverse. Most people recognize the need for caution given the volumes of data available encouraging it, yet Reclamation alone chooses to embark on a path of risk, blind to the flashing lights along the way.

3. The Conservation Unknown

The majority of the DEIS evaluates plans for when and how to reduce flows from Lake Mead should certain shortage conditions exist. What is virtually ignored are the steps the Lower Basin should be taking to reduce its reliance on this water as these shortages gradually become a permanent condition due to increased Upper Basin consumption and the potential continuation of the downward trend in overall system inflows.

Admittedly, given the limited level of initial shortages forecasted by Reclamation for the interim period, the DEIS likely assumes that such shortages are of a magnitude well within the abilities of the Lower Basin states to absorb without creating additional noise in the system. However, even under Reclamation's rather optimistic predictions of inflows, shortages of more than .5 MAF will become commonplace. Arizona in particular will be facing reductions nearly every year.

More importantly, should Colorado River inflows continue to reflect the kind of downturn many researchers are predicting, a nearly persistent state for Lower Basin reductions would quickly materialize. Furthermore, should those forecasts suggesting more severe reductions in streamflow prove accurate, the Upper Basin too may be forced to permanently adjust its consumption.

The DEIS's only attention to the water conservation issues pertaining to the Basin States Alternative, is through a mechanism allowing the Basin States to bank water in Lake Mead for release at a later date. However, as the DEIS notes, the actual use of this program is vague to say the least.

"At this time, it is unknown which entities might participate in a Lake Mead mechanism that allows the storage and delivery of conserved system and non-system water. Furthermore, the timing and magnitude of the storage and delivery of conserved water is unknown." (Page M-1.)

Furthermore, as is illustrated in the specimen worksheet reproduced in Table M-3, it is unclear if the kinks of the program have been ironed out. The worksheet shows California accumulating over 3 maf of water in Lake Mead, whereas the assumptions state California's maximum allowable accumulation is 1.5 maf.

While a potentially valuable concept, the lack of any discussion as to how this, or any other program, will cause those Lower Basin water users most exposed to shortage situation to reduce their reliance on Colorado River water, illustrates an ongoing lack of foresight by the Lower Basin states. As summarized in Section 1 above, these shortages have been a known problem resulting from the river's over-allocation. The Lower Basin's reluctance to address this problem is evidence by the political background spawning the Basin States proposal, and ultimately this DEIS. Moreover, the Lower Basin's unwillingness to advance a more far-reaching alternative, which recognizes the scale of potential shortages discussed above, further reveals its resistance to planning for what it has known for decades would be coming.

Therefore, the Department of Interior must require from the Basin States, as a pre-condition to any changes in dam operations, a detailed action plan outlining how they will reduce their consumption of Colorado River should shortages of the range discussed above materialize. It's not enough to assume that junior water rights holders will happily accept such cuts on a regular basis. Colorado River water users must resolve disputes in advance of shortages occurring, so that federal resources, including the courts, are not forced to do it for them.

In developing their plans, the Basin States and Reclamation should examine the

tremendous water losses evaporating off the surfaces of Lakes Powell and Mead, averaging 1.36 maf annually. Much of the water in both these reservoirs could be stored underground in aquifers already plumbed into the Colorado River system.

It's ironic that as the climate heats up, and evaporation rates increase, the states of Arizona and California, which have extensive capacity in their Colorado River groundwater recharge facilities, would advocate storing "conserved" water in Lake Mead where more losses will undoubtedly occur. The DEIS should therefore examine how the proposed "Lake Mead storage and delivery of conserved system and non-system water" program can be shifted to more efficient storage reservoirs underground. Such storage would also avoid the potential loss associated with Mead banking should Reclamation be forced to spill excess water for flood control purposes through Hoover Dam

Conclusion

Thirty million people now rely on Colorado River water to be delivered to their homes, a number which is increasing despite the fact river flows are decreasing. Much of the Southwest economy relies on this water, therefore will experience serious repercussions should shortages materialize that are beyond the magnitude forecasted in this DEIS.

The men who met at Bishops Lodge in 1922 created this problem by allocating more water than the Colorado River had historically provided. Reclamation now appears destined to perpetuate this error by again assuming there is more water in the river than paleo-reconstruction experts now advise. Moreover, Nature is in the process of imposing major changes on the Colorado River that no amount of computer modeling can hide.

We therefore urge Reclamation and the Basin States to take a step back and revisit the assumptions that went into this process so they better reflect the changing world around them. Only then can some *real* alternatives for dealing with the *real* shortages problems be developed, analyzed and presented to the public. The longer Reclamation and the Basin States delay attending to all this, the fewer the options, the more contentions the atmosphere, and the more costly the solutions become.

Lastly, recognizing the importance of this issue, Living Rivers/Colorado Riverkeeper would appreciate the opportunity to offer additional comments to Reclamation and this DEIS process. We understand that other interveners intend to submit comments beyond today's published deadline and that Reclamation has agreed to incorporate them in the Final EIS. Please notify us as to the final deadline after which no additional comments will be accepted on this DEIS.

Sincerely,

John Weisheit, Living Rivers, Conservation Director
Michelle Harrington, Center for Biological Diversity, Rivers Program Director

Phone: (928) 505-7785

**Law Offices
of**

Fax: (928) 505-7786

Maureen Rose George, P.C.
2000 McCulloch Boulevard N., Suite D
Lake Havasu City, AZ 86403
E-mail: mrglaw@npgcable.com

April 30, 2007

Bureau of Reclamation
Attn: BCCO-1000
PO Box 61479
Boulder City, NV 89006-1470
Fax: 702-293-8156
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Email: strategies@lc.usbr.gov

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To Whom It May Concern:

INTRODUCTION

The Mohave County Water Authority (MCWA) submits the following comments to the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement (February 2007). MCWA is comprised of members representing Bullhead City (BHC), Lake Havasu City (LHC), Mohave Water Conservation District (MWCD), Mohave Valley Irrigation and Drainage District (MVIDD), Golden Shores Water Conservation District (GSWCD), City of Kingman and Mohave County. BHC, LHC, MWCD, MVIDD and GSWCD represent the first (and probably only) municipal / industrial users in the State of Arizona to be significantly and immediately impacted by projected shortages during the interim period. Because of our unique position in the State of Arizona, we renew our previously denied request for consultation on this matter as the draft EIS makes it abundantly clear that no one with whom Reclamation consulted was adequately representing the interests of Arizona's 4th priority on river users.

THE SEVEN BASIN STATES ALTERNATIVE

MCWA recognizes Arizona worked diligently with the other Basin states to achieve agreement on the Basin States' Preliminary Proposal recommended to the Secretary of Interior on February 3, 2006 following the publication of the Draft EIS, and that Arizona has continued to work closely with the other states to refine and improve the Basin States' Preliminary Proposal and to develop one set of comments to the Draft EIS on behalf of all of the states ("Basin States Comments"). We understand the Basin States will be submitting the Basin States' Comments, together with the Basin States'

"As you drink the water, remember the spring."

- Chinese proverb -

Proposal, which will include the Basin States' Agreement, Proposed Interim Guidelines for Colorado River Operations, draft Forebearance Agreement and Arizona-Nevada Shortage Sharing Agreement (Basin States Proposal). While MCWA has some significant reservations regarding the Basin States Alternative we join in Arizona's letter submitted this date recommending the Secretary choose the Basin States alternative as the preferred alternative in the FEIS and adopt an ROD with the guidelines and criteria necessary to implement the Basin States Alternative in substantial conformance with the carefully negotiated Basin States Proposal provided such ROD adopts Arizona Department of Water Resources' Director's Shortage Sharing Workshop Recommendations, October 24, 2006 (Revised) Final attached hereto as Exhibit 1.

COMMENTS TO ADDRESS CONCERNS SPECIFIC TO MCWA

1. No Action Alternative:

This alternative would provide no guidance to the on river 4th priority users in planning for shortages. Our members could suffer 30% shortages in both M&I and agricultural supplies as early as 2011. It gives no guidance as to how and when shortages would be imposed. It also assumes (a) the existing 602(a) interpretation would stand (see Arizona's letter for further discussion) and (b) the CRBPA requires on river agricultural and municipal/industrial users to be shorted immediately when CAWCD suffers shortages. This conclusion is not compelled by either the language in our contracts nor the CRBPA. This alternative leaves too many unanswered questions both among the Basin States and within Arizona to be acceptable to MCWA.

2. Water Supply Alternative

The DEIS indicates that there would likely be no shortages in Arizona during the interim period under this alternative. In the short term this is clearly the best alternative for us, but we recognize the potential long term adverse consequences of this alternative and the likely conflicts it would cause among the Basin States. The compromises encompassed within the Basin States Proposal benefit the entire system and its long term benefits are reasons we support the Basin States Alternative versus the Water Supply Alternative.

3. Reservoir Storage Alternative

The modeling provided in the DEIS shows that this alternative would have a significant negative impact on the river communities in Mohave County. While the Reservoir Storage Alternative proposes to offset some of its impact with increased intentionally created surplus (ICS) the Arizona cities most immediately and severely impacted by this proposal, i.e., Lake Havasu City and Bullhead City, would be unlikely to benefit from an ICS program without a legal battle within Arizona.

MCWA for the above reasons, as well as the reasons set forth in Arizona's letter, strongly objects to the Reservoir Storage Alternative.

4. CBS Alternative

MCWA believes the concept of voluntary following, as well as the opportunity for participation by all parties (including Arizona's on river 4th priority users and Mexico) in the ICS program are laudable goals and request the FEIS adopt the Basin States Alternative as the preferred alternative but discuss further the steps which could be taken, within the Law of the River, to get the benefits likely to result from a voluntary following program (which would put following contracts in place NOW for future shortages) and to broaden participation in the ICS program. Representing the communities in which Arizona will take the first, and most significant, reductions in times of shortage we consider it incumbent upon the Secretary to take all reasonable steps to mitigate the impacts of shortage by supplementing the mitigation efforts we already have in place.

5. Additional Comments on the DEIS

A. ICS

Reclamation should, in the Final EIS, accurately describe ICS as a category of surplus, include a description of the forbearance necessary for the delivery of ICS to the entity that created the Surplus, and, in the record of Decision, adopt guidelines for the creation and delivery of ICS as set forth in the Proposed Interim Guidelines contained in the Basin States' Proposal. Reclamation should also take reasonable steps to provide that the benefits of ICS are available to all users particularly those immediately and significantly impacted by projected shortages, i.e., our members.

B. On River 4th Priority Agricultural Users

The draft EIS includes the following statement: "Key to the impact analysis is the assumption that the most conservative way to estimate impacts is to assume that, if a shortage occurs, farmers would react by following irrigated lands." (p.4-263) This is an adequate approach for analyzing shortage reductions expected to last for a single year. However, we disagree with the assumption that this approach captures the expected impact for multiple consecutive-year storage reductions. Since fourth priority agricultural water users in Mohave County, Arizona have no reasonably available replacement water supply, a long term shortage will likely result in the permanent loss of production for some lands.

The DEIS also fails to adequately address the impact on the economies of the impacted communities of this loss of agriculture by comparing the impact to the State and County overall (see, e.g., p.4-261 which totally ignores on river agricultural impacts in Arizona). This serves to very much dilute the direct and immediate impact on the on river 4th priority user communities.

C. On River 4th Priority Municipal and Industrial Users

- As with on river agricultural users, the DEIS fails in any manner to address the direct and immediate impact of the projected shortages and cumulative shortages on municipal users of 4th priority on river users (see, e.g., p.3-129) and, again, lumps the communities together by County which significantly dilutes the local impact.
- The DEIS depletion schedules (Appendix D) underestimate by 25-35% on river M&I water use (as compared, e.g., to Reclamation's own 2006 water use report) which again, serves to underestimate the extent and effect of shortages and makes it difficult to determine the actual shortage amounts we would be expected to suffer based on the DEIS hydrologic modeling.
- The DEIS fails to address the significant costs borne by our members to date, and the even higher costs to be borne in the future, of the mitigation efforts taken to date (primarily participation in the Arizona Water Banking Authority (AWBA) program which costs include water, delivery, storage, recovery and replacement of any water used in times of shortage). The significant economic hardship of using AWBA water in times of shortage, particularly in multiple year shortage occurrences, is totally ignored by the DEIS. The DEIS also ignores the hundreds of millions of dollars our communities have spent/are spending to convert from septic to wastewater treatment systems in order to generate effluent to offset the impacts of shortage.
- Future estimated shortage reductions to mainstream users, including Lake Havasu City and Bullhead City, run as high as 30% of entitlement over a number of consecutive years. Despite the conclusion in the DEIS that no permanent changes in land use are expected (p.4-270) it is highly unlikely that such significant cutbacks in supply, and as early as 2011, would not alter land use patterns in the affected communities.
- The DEIS goes to great lengths to address impacts in Nevada (ostensibly in support of the extreme measures be proposed to solve both its long term and shortage supply needs) and the Central Arizona Project area while totally ignoring that Arizona's on river 4th priority users are in a far worse position than either of these areas for a number of reasons including:
 - (1) Neither our agricultural nor M&I users have a readily available alternative source of water to offset shortage reductions; e.g., no adjacent tributaries, no non Colorado River related surface water flows,

nor (based on Reclamation's current interpretation of Article V accounting under the Consolidated Decree in *Arizona and California*) is there any locally available, non-Colorado River groundwater..

- (2) The small (relative, e.g., to the SNWA and CAP service areas) population in the area, and the large geographic distances separating the on river P4 users, make financing of any water importation project unlikely at best.
- (3) Following agreements, e.g. with farmers or tribes, as are available to Central Arizona Project communities are not available to on river P4 users for a variety of reasons including the trading of our priority for the CAP (which did not benefit, and arguably harmed, on river users), on river tribes in Mohave and LaPaz settling their claims before our communities existed and thus such settlements make no provision for leasing to adjacent municipalities, and the apparent position of Arizona and CAP that ICS in any form is not available to us without forbearance by Arizona and CAP.
- (4) Limited, if any (investigation is ongoing) adjacent basins unconnected to the River in which recharge, and recovery, could occur (i.e., our own banking program).
 - The ROD needs to include the Arizona/Nevada shortage sharing agreement as submitted with the Basin States Proposal and a provision that the proceeds of that agreement are to first be used to hold the on river P4 M&I users, the first impacted by this "deal", harmless (i.e., as to water and money) from the impact of this sharing agreement. Arizona has verbally indicated to MCWA that this is the intent but due to the immediate and detrimental impact of the Arizona/Nevada agreement MCWA takes the position this commitment should be recognized in the ROD.

D. Additional Comments

- An agreement with Mexico is a critical component of the Basin States Proposal and MCWA's support of same. The impacts of a failure to reach such an agreement are not modeled in the DEIS but would no doubt have a significant impact on our members
- MCWA, its members, and Arizona as a whole appear to be penalized in the DEIS for its active planning for drought for decades (p.4-282). The DEIS dismisses the significant economic impact of the investments made to date, and projected into the future, by coming to the erroneous conclusion that due to Arizona's drought planning, there is no real impact on its M&I users.

- The projected depletion schedules and shortage impact tables in the DEIS do not accurately portray the various contracts and contract amounts held by MCWA and its various subcontractors. This should be corrected in the FEIS.
- Because a shortage has not been declared to date on the River, and because our M&I users take the most immediate and significant and disproportionate reductions, the FEIS should include a program for monitoring the economic, land use and public policy impacts of any declared shortage during the proposed interim period.
- Operation of the YDP at full capacity should commence as soon as possible in order to stop the loss of water now occurring as a result of the bypass flows to the Cienega de Santa Clara.
- Reclamation should immediately undertake programs and projects to augment system flows.
- Final shortage guidelines should be flexible in order to allow the appropriate response to changing conditions including, but not limited to, improved hydrologic conditions during the year(s) in which a shortage is declared and catastrophic conditions requiring cuts in excess of 600,00 a/f.

CONCLUSION

Subject to Arizona's comments as submitted by ADWR, and our comments as noted above, the Mohave County Water Authority strongly recommends that the Secretary choose the Basin States Alternative as the preferred alternative in the FEIS and adopt a ROD with the guidelines and criteria necessary to implement the Basin States Alternative in substantial conformance with the carefully negotiated Basin States' Proposal.

Sincerely,


Maureen R. George
General Counsel
Mohave County Water Authority

Attachment: Exhibit 1; Director's Shortage Sharing Workgroup Recommendation, October 24, 2006 (Revised) Final

Cc: Herbert R. Guenther, Director, Arizona Department of Water Resources (email)
Board Members, Mohave County Water Authority
Les Byram, Mayor, City of Kingman – (email)
Diane Vick, Mayor, Bullhead City – (email)
Tom Sockwell, Supervisor, Mohave County – (email)
Tom Griffin, Mohave Water Conservation District – (email)
Paul Maxwell, Golden Shores Water Conservation District
Doyle Wilson, Lake Havasu City – (email)

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
October 24, 2006
(Revised)
Final

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.

Director's Shortage Sharing Workgroup Recommendation
October 24, 2006
(Revised)
Final

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.

Shortage Sharing Scenarios - Pro Rata Reductions Based On Priority 4 Entitlements

(Values in Acre-feet)

Year	Priority 1-3 Mainstream Projected Consumptive Use ¹	Available for Priority 4 Diversions - Normal Supply ²	Priority 4 Mainstream Total Entitlement	Priority 4 Mainstream Shortage Sharing Percentage	Arizona Portion of Lower Basin Shortage ³	Available for Priority 4 Diversions - Reduced Supply	Priority 4 Mainstream Diversions - Reduced Supply	Projected Priority 4 Mainstream Diversions ¹	Priority 4 Mainstream Diversions - Net Reduction
400,000 Acre-Feet Shortage									
2010	1,171,867	1,556,133	164,652	10.58%	308,588	1,247,545	132,001	155,880	23,879
2016	1,177,135	1,550,865	164,652	10.62%	308,588	1,242,277	131,890	158,961	27,071
2025	1,185,597	1,542,403	164,652	10.68%	308,588	1,233,815	131,710	162,362	30,652
2031	1,191,580	1,536,420	164,652	10.72%	308,588	1,227,832	131,582	163,799	32,217
500,000 Acre-Feet Shortage									
2010	1,171,867	1,556,133	164,652	10.58%	385,735	1,170,398	123,838	155,880	32,042
2016	1,177,135	1,550,865	164,652	10.62%	385,735	1,165,130	123,699	158,961	35,261
2025	1,185,597	1,542,403	164,652	10.68%	385,735	1,156,668	123,475	162,362	38,887
2031	1,191,580	1,536,420	164,652	10.72%	385,735	1,150,685	123,314	163,799	40,485
600,000 Acre-Feet Shortage									
2010	1,171,867	1,556,133	164,652	10.58%	462,881	1,093,251	115,675	155,880	40,204
2016	1,177,135	1,550,865	164,652	10.62%	462,881	1,087,983	115,509	158,961	43,452
2025	1,185,597	1,542,403	164,652	10.68%	462,881	1,079,521	115,239	162,362	47,122
2031	1,191,580	1,536,420	164,652	10.72%	462,881	1,073,538	115,047	163,799	48,752

ENDNOTES

- ¹ Source: Arizona Department of Water Resources 2003 mainstem Colorado River water use projections.
- ² An amount of 72,000 acre-feet has also been deducted to account for higher priority Ak-Chin and Salt River Pima-Maricopa Indian settlement water.
- ³ This amount is determined by first deducting Mexico's share (16.7%) of the total Lower Basin shortage. The remaining shortage volume is apportioned first to Nevada (7.4%) and the remainder to Arizona.

April 30, 2007

Regional Director
Lower Colorado Region
Bureau of Reclamation, Attention BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Re: Notice of Availability and Notice of Public Hearings for the Draft Environmental Impact ("EIS") Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

Dear Regional Director,

The City of Mesa ("Mesa") submits its comments to the Draft EIS for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (72 Fed. Reg. 9026, February 28, 2007).

Mesa is the third-largest city in Arizona. Mesa receives electricity from the Colorado River system that it in turn delivers to approximately 15,000 power customers and receives water from the system that it delivers to over 450,000 water customers. Mesa currently makes beneficial use of nearly 55,000 acre-feet of water per year from the Central Arizona Project ("CAP"), and ultimately expects to use at least 80,000 acre-feet per year of CAP water, including water that is of Municipal & Industrial, Indian, and Non-Indian Agricultural priority. Because of this, and because the CAP is the junior diverter in the lower basin, the strategies for shortage criteria and coordinated operations for Lake Powell and Lake Mead currently being developed are of critical importance to our citizens. The prospect of shortage on the Colorado River system already impacts our citizens because Mesa expends enormous resources to mitigate the impacts of future shortages. When actual shortage comes, the impacts will be even greater and the costs will be even higher.

640 North Mesa Drive
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Mesa Arizona 85211-1466
480.644.3306 Tel
480.644.2426 Fax



For Mesa's proactive planning to be meaningful and productive, there must be some reasonable degree of certainty regarding the manner in which shortages will be determined and managed. Of those analyzed, the Basin States' alternative provides Mesa with the greatest degree of certainty.

Some of the alternatives listed seem to penalize Mesa by assuming that Mesa can bear a greater burden of Colorado River shortage precisely because it has taken a proactive approach towards mitigation of shortages through efforts to diversify its water resources portfolio. The Secretary should please remember that all resources used to protect against shortages are a cost to citizens every bit as burdensome as resources expended after shortage has been declared. Moreover these costs are cumulative over very long periods of time.

Mesa has maintained active interest and involvement in the federal government's efforts to finalize criteria for the declaration and management of shortage on the Colorado River. Mesa provided previous comments to the U.S. Bureau of Reclamation during the scoping process and participated in the Arizona stakeholder group to work collaboratively on development of shortage criteria that both manage and minimize the impacts of shortage.

The Basin States' alternative is the result of a coordinated effort between all seven Colorado River Basin States. Mesa urges the Secretary to adopt the Basin States' Proposal as the preferred alternative in the final environmental impact statement and to implement the Basin States' alternative through the final Record of Decision.

Sincerely



Kathryn Sorensen

Water Resources Coordinator

c: Herb Guenther, Director, Arizona Department of Water Resources



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

April 30, 2007

VIA E-MAIL
& U.S. MAIL

Ms. Jayne Harkins
Acting Regional Director, Lower Colorado Region
U.S. Department of the Interior
Bureau of Reclamation
Attention: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Comments on Bureau of Reclamation Draft Environmental
Impact Statement, Colorado River Interim Guidelines for Lower Basin
Shortages and Coordinated Operations for Lake Powell and Lake Mead

The Metropolitan Water District of Southern California commends the Department of the Interior and the Bureau of Reclamation for their comprehensive analysis of alternatives in the Draft Environmental Impact Statement; Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead ("DEIS").

Water from the Colorado River accounts for a significant share of supplies within Metropolitan's service area in the coastal region of Southern California. After years of negotiation under the leadership of the Department of the Interior, California entities reached a historic pact to allow California to live within its basic apportionment of 4.4 million acre-feet annually when surplus water and unused apportionment is unavailable. The 2003 Colorado River Water Delivery Agreement ("CRWDA") provides a number of benefits to Metropolitan, including interim access to available surpluses and greater flexibility for managing diversions into our Colorado River Aqueduct.

The Basin States' Alternative analyzed in the DEIS would establish guidelines to operate Lake Mead and Lake Powell more efficiently and flexibly for the benefit of all seven states in the Lower and Upper Colorado River Basins. Of greatest importance to Metropolitan, the Alternative would facilitate improved water management by permitting contractors to reduce water use via extraordinary conservation and recover most of that water in later years. This management technique would allow Metropolitan to reduce the likelihood of regional shortages in years when California's State Water Project experiences reduced delivery capability. Furthermore, the Alternative's provision for extending Metropolitan's access to surplus water would increase the likelihood of Metropolitan being able to operate the Colorado River Aqueduct at or near capacity (a key objective of Metropolitan's Integrated Resource Plan).

The Metropolitan Water District of Southern California

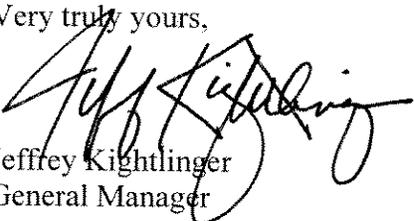
Ms. Jayne Harkins
Acting Regional Director, Lower Colorado Region
Page 2
April 30, 2007

Metropolitan concurs with the April 30, 2007 comments on the DEIS submitted by the States of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming Governors' Representatives on Colorado River Operations, and those of the Colorado River Board of California.

Like execution of the CRWDA and the Quantification Settlement Agreement, submittal of the Basin States' Proposal described in the comments of the Governors' Representatives represents a seminal moment in the history of the Colorado River. We urge Reclamation to build upon this progress by selecting the Basin States' Proposal as the preferred alternative in the Final Environmental Impact Statement and adopting the Proposal in the Record of Decision for this matter.

We thank the Department of the Interior and Reclamation for their responsiveness and leadership during this process.

Very truly yours,


Jeffrey Kightlinger
General Manager

PEV:gy

cc: Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203-1035

>>> "spollack" <spollack@navajo.org> 04/29/07 4:42 PM >>>
Dr. Fulp:

Please consider the attached letter as comments submitted on behalf of the Navajo Nation concerning the Draft Environmental Impact Statement on the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

Please do not hesitate to contact me if you have any questions concerning the information provided here. Thank you for your anticipated cooperation.

Stanley M. Pollack, Assistant Attorney General Water Rights Unit Navajo Nation
Department of Justice P.O. Box 2010 Window Rock, AZ 86515

928.871.6192 (P) / 928.871.6200 (F)

This message may contain confidential information. If you are not the intended recipient, please delete the email and inform the sender immediately. Thank you.



NAVAJO NATION DEPARTMENT OF JUSTICE
OFFICE OF THE ATTORNEY GENERAL

LOUIS DENETSOSIE
ATTORNEY GENERAL

HARRISON TSOSIE
DEPUTY ATTORNEY GENERAL

April 29, 2007
via regular mail & email

Terrance J. Fulp, Ph.D., Area Manager
Boulder Canyon Operations
Bureau of Reclamation
Lower Colorado River Region
Attention: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

tfulp@lc.usbr.gov & strategies@lc.usbr.gov

Re: Comments of the Navajo Nation on Draft Environmental Impact Statement on the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (“DEIS”)

Dear Dr. Fulp:

Please consider this letter as comments submitted on behalf of the Navajo Nation concerning the above-referenced DEIS. The Navajo Nation believes that the Secretary of the Interior has an affirmative obligation to take all necessary action to quantify the Navajo Nation’s water rights and needs from the Colorado River. President Shirley’s letter of August 31, 2005 to then Regional Director Johnson, requested the Department of the Interior to account for the water needs of the Navajo Nation as part of these Interim Guidelines. The DEIS fails to adequately account for or address the needs of the Navajo Nation.

Reclamation asserts one purpose of the proposed federal action is to “provide mainstream United States users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions.” DEIS at 1-3. The DEIS is deficient in that it does not fully account for how the Navajo claims would increase the risk of curtailment of water deliveries, particularly to users in the Lower Division states. As a general matter, the DEIS treats the Navajo claims in Arizona as part of that state’s water allocations; however, since these claims are not described in the water balance reporting nor were the impacts analyzed, the DEIS understates the impact of such claims on other water users within the State. Moreover, were the Navajo Nation successful in developing its water rights pursuant to these claims, such development upstream of Lake Mead would displace junior water users below Lake Mead. It appears that the DEIS does not fully examine the impact of exercising these Indian Trust Assets; therefore, the DEIS fails far short of its goal of providing a greater degree of predictability to the water users.

Turning to the specific sections of the DEIS, the Navajo Nation offers the following comments:

ES-2.9 Executive Summary, Indian Trust Assets

The conclusion that “Tribal trust resources identified in the study area would not be adversely affected by any of the anticipated environmental impacts stemming from the proposed federal actions” is unwarranted. The DEIS does not include an analysis of the projected water needs of the Navajo Nation or identify any water sources to satisfy those needs. By letter of August 21, 2006, the Navajo Nation identified a reasonable breakdown of its anticipated demands. None of those demands are reflected in the DEIS analyses, nor are they reflected in Appendices C or D. If the water rights of the Navajo Nation, an Indian Trust Asset, are unknown and unquantified, no conclusion can be reached with respect to impacts on those assets. Moreover, even where Indian Trust Assets are known, such as the Navajo Nation’s dependency on Lake Powell as a source of water for development and for recreational values, the DEIS identifies very clear adverse impacts on water levels in Lake Powell resulting from various alternatives. Alternatives that increase the risk of lower water levels in Lake Powell have adverse impacts on the Navajo Nation because of increased pumping costs for water development or lost economic development opportunities at Navajo marinas.

3.2.1.1 Affected Environment, Lake Powell and Glen Canyon Dam

The DEIS does not analyze potential diversions by the Navajo Nation out of Lake Powell. Moreover, the DEIS does not even recognize current water uses from Lake Powell by the Navajo Nation. The Navajo Nation entered into contract on September 14, 1969, with the Department of the Interior for water from Lake Powell. This allows the City of Page to divert water from Lake Powell for use by the Navajo community of LeChee. An Environmental Assessment is underway for a new intake, and the Navajo Nation is negotiating a new Secretarial contract for an increased water supply for the LeChee area. The DEIS neglects to describe the current and ongoing economic development at Antelope Canyon and marina at Antelope Point. In addition, the Navajo Generating Station obtains its cooling water from Lake Powell. The Navajo Generating Station is located on the Navajo Reservation, employs hundreds of Navajos and burns coal produced from the Navajo Nation. Any adverse impact visited upon the Navajo Generating Station by any federal action should be viewed to have an adverse impact on the Navajo Nation.

These comments are equally applicable to the provisions at 3.3.2 Affected Environment, Lake Powell and Glen Canyon Dam.

3.4.1 Affected Environment, Apportionment to the Upper Division States

Reclamation relies on depletion schedules for the Upper Division states developed by the Upper Colorado River Commission and submitted to Reclamation in December 1999. Revised depletions schedules were provided in 2006.

3.10.6.1 Affected Environment, Navajo Indian Reservation

The DEIS asserts that the “Navajo Nation economy is historically based on livestock herding and dry farming.” This statement is a gross over simplification of the Navajo economy. Royalty and tax revenues from mineral production on the Navajo Nation account for at least 90% of the non-federal portion of the Navajo Nation’s operating budget. With respect to agricultural production, the Navajo Nation has significant resources in addition to the Navajo Indian Irrigation Project. In 1986 the USDA Soil Conservation Service conducted a partial inventory of irrigation projects on the Navajo Reservation. The 1986 SCS inventory identified more than 80 irrigation projects that included more than 40,000 acres. In 1994 in the *Report of Amended Water Claims by the Untied State of America for the Indian Lands in the Little Colorado River Basin*, the U.S. Justice Department reports more than 69,000 acres irrigated with surface water on the Navajo Reservation just within the Little Colorado River Basin.

By letter of August 21, 2006, referenced in this section, the Navajo Nation estimated that it would need at least 76,732 acre-feet per year from the mainstream of the Colorado River in Arizona. That budget does not appear to be included within the depletion schedules at Appendices C or D. In addition to this demand from the mainstream, the Navajo Nation also projected a demand of 63, 000 acre-feet per year from the Little Colorado River, a tributary of the Colorado River. The DEIS does not appear to account for the 139,732 acre-feet of potential Navajo uses from the Colorado River system in Arizona. The DEIS does not attempt to evaluate the impact of the exercise of these water demands as part of any of the alternatives. It is misleading to conclude that this water would simply be deducted from Arizona’s allocation without impact on the overall water balance. The diversion and use of water by the Navajo Nation upstream of Lake Mead and/or Lee Ferry would be to the detriment of junior users downstream of Lake Mead. Since such diversions would be at points different than the junior rights displaced, there could be differential impacts visited upon the various alternatives.

Impacts on the ability of the Navajo Nation to meet the needs of its people are not just related to hydrologic variables such as lower median water levels in Lake Powell, “occasionally” reduced flows below Lake Powell, and altered water quality. These impacts may also involve any number of administrative or operational variables for instance, securing Secretarial water contracts, establishing points of diversion above or below Lee Ferry, and protecting endangered species in the future. The DEIS fails to conduct a thoughtful analysis of all of the variables that need to be considered. Without this analysis it is impossible for the DEIS to unequivocally conclude in this document that there are no impacts on Indian Trust Assets.

3.11.7.2, Affected Environment, City of Page Water Supply Intake

This description is flawed for the reasons stated above concerning section 3.2.1.1. The DEIS does not address Navajo municipal uses from Lake Powell or future impacts on the Navajo Nation’s ability to use the lake as a forebay for additional water projects, including projects

recently evaluated by Reclamation in the *North Central Arizona Water Supply Study Report*, December 2006.

The Navajo Nation's recreational interests at Lake Powell include but are not limited to the Quality Inn Lake Powell, Antelope Canyon, Antelope Point Marina, Navajo Bridge, and Castle Rock. Reservoir elevations that could potentially impact Navajo Nation tourism include Castle Rock Cut, which is closed at 3,620 feet mean storage level, and the Antelope Point Public Launch Ramp, which is closed at 3,588 feet mean storage level. Each of the alternatives predict some impact on the mean storage level, but the DEIS provides no analysis of the impacts on Navajo tourism revenues, including tourist accommodations, park entrance fees, tour guides, etc.

3.15.1 Minority, Low-income Populations, and Indian Tribes

The DEIS relies on county level statistics to describe Minority, Low-income Populations, and Indian Tribes. This recitation of county level statistics obfuscates the desperate socioeconomic conditions of those living on the Navajo Reservation. The U.S. Census Bureau produced ample data that far better reflect these on-reservation conditions than the county level data. The document needs to more accurately address this issue so that the readers will better understand that the high rates of poverty and unemployment, the high number of homes that do not have direct access to safe drinking water, and the need for improved infrastructure are very closely related.

4.10.1 Environmental Consequences, Water Rights and Trust Lands

The DEIS states that to the extent that "additional Tribal water rights are developed, established or quantified, during the interim period of the proposed federal action, the United States will manage Colorado River facilities to deliver water consistent with such additional water rights, if any, pursuant to federal law." This commitment merely to follow federal law, rather than affirmatively manage the Colorado River consistent with the Navajo Nation's trust assets, ensures that other interests will continue to rely on water supplies claimed by, reserved for, and potentially belonging to the Navajo Nation. Reclamation has an affirmative obligation to operate federal water projects, such as Glen Canyon Dam and Hoover Dam, consistent with "vested, fairly implied senior Indian water rights." *Joint Board of Control of Flathead, Mission and Jocko Irrigation Districts*, 832 F.2d 1127 (9th Cir. 1987). It is logical to expect that the current water users will have even more incentive to resist the development of Colorado River water by the Navajo Nation in order to minimize their risk of shortage.

Moreover, the DEIS fails to provide any analysis of the impacts on the vested, but unquantified water rights of the Navajo Nation. The U.S. Supreme Court has repeatedly recognized that tribes possess reserved water rights that vest no later than the date their reservations were established. *See: Winters v. United States*, 207 U.S. 564 (1908); *Arizona v. California*, 373 U.S. 546 (1963). It is not sufficient for the DEIS to evaluate only those water rights presently "developed, established or quantified." As part of the adjudication of its water rights,

the Navajo Nation will have to prove that the water necessary for its permanent homeland can be diverted and used in a practicable manner. The recent decision of the Arizona Supreme Court suggests that tribes must demonstrate the practicability of diversion for beneficial use for all water claimed. *See: In Re: The General Adjudication of All Rights to Use Water in the Gila River System and Source*, 35 P.3d 68, 80 (Ariz. 2001) (“[P]roposed projects should be scrutinized to insure that they are practical and economical.”) The Navajo Nation’s ability to divert water from Lake Powell in a feasible manner will depend to a large degree on the cost of the energy needed to lift the water. To the extent that any alternative will result in lower water levels at Lake Powell, the costs of diverting water necessarily increase as noted at 3.11.7.2 of the DEIS. (“[D]rops in the elevation of Lake Powell could cause an increase in the cost of power for the City of Page’s intake pump station.”) While the DEIS considered drops in lake elevation to be an environmental consequence that must be evaluated for the City of Page and the Navajo Generating Station, the DEIS completely ignores the potential impact that such changes in elevation would have, not only on the ability of the Navajo Nation to divert water from Lake Powell, but to demonstrate the practicability of such diversions in any future water rights adjudications.

In short, the DEIS fails to provide any meaningful evaluation of impacts on Navajo water rights.

4.15.8 Environmental Consequences, Indian Trusts Assets

The Department of the Interior has made no effort to quantify the Navajo Nation’s water rights. It is unclear how the DEIS can conclude that there are no significant impacts on Indian Trust Assets when the extent of those trust assets are unknown. Even though the water rights of the Navajo Nation are unquantified, the DEIS failed to give meaningful consideration to the water budget proposed in the Navajo Nation’s letter of August 21, 2006 or to account for any impacts on the unquantified water rights for reasons discussed above.

Similarly, the statement at 5.1.29.7 concerning the absence of cumulative effects on Indian Trust Assets is also fundamentally wrong.

* * *

As President Shirley previously advised in his letter of August 31, 2005, the Secretary must account for the needs of the Navajo Nation as he undertakes the difficult task of developing guidelines to deal with Lake Powell and Lake Mead in times of shortage. Moreover, absent forceful action by the Secretary to secure an adequate water supply for the Navajo Nation, the stated objective of providing certainty about the quantities of water available to other users cannot be achieved because those supplies will always be at risk from the outstanding and unquantified Navajo claims.

Terrance J. Fulp, Ph.D., LC, BOR
Re: Comments of the Navajo Nation on DEIS
April 29, 2007
Page 6

Please do not hesitate to contact me if you have any questions concerning the information provided here. Thank you for your anticipated cooperation.

Sincerely,

NAVAJO NATION DEPARTMENT OF JUSTICE

signed on original

Stanley M. Pollack
Assistant Attorney General

From: Mikki & Dorothy Niemi [niemicat@hotmail.com]
Sent: Friday, March 16, 2007 7:43 AM
To: rwalsh@lc.usbr.gov
Subject: Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated
Oper
CITIZEN INPUT on Colorado River Interim Guidelines for Lower Basin Shortages and
Coordinated Operations for Lake Powell and Lake Mead

In Stage I:

It appears that the math used to arrive at the shortage assignments differs from case to case, no doubt the result of the 60s agreement that optimistically took responsibility for all shortages on the river unto Arizona.

I now ask what the incentive for all those water users in California to conserve might be? I believe this antiquated agreement that penalizes Arizona water users unduly while cutting no allocations for others leads to profligate development and wastage of water.

As a native Arizonan, I deplore this unfair distribution of water shortage 'allocations'. This ill-conceived agreement should be renegotiated.

Another problem is the cutting off of agriculture in favor of bedroom communities and ever continuing development is strategically foolish. Agriculture recharges the water table, provides human food and fodder for livestock and is a viable business in Arizona. I know the assumption is that food can be shipped in with less cost than the value of the water used in agriculture, but making sure that the population of Arizona is totally dependent on supplies brought in using fossil fuels is poor future planning. Fossil fuel is not going to ever be cheaper and this policy insures that the people of Arizona will be paying inflated food prices on all foodstuffs. I have a problem with this kind of shortsighted planning. Of course, the developers promote this destructive plan since they can then sop up the last of the Arizona allocation in more homes. As of now, Tucson has over 9,000 housing units for sale at inflated prices.

I do believe that prohibiting further water hookups, cutting water to golf courses and other water saving measures should be required of all communities using Colorado River water before this shortage allocation plan be implemented.

The economic problems generated by a cessation of raw development are real and can be predicted in terms of construction related unemployment. All of the communities using Colorado River water must aim for sustainability in water resources, which will force a lifestyle change among the water users.

I know that the present allocations were assigned during flood times on the Colorado, as corroborated by data from 1500-2000 AD. The 'new' average river flow will not sustain the current populations at their level of water use.

I suggest that mandatory conservation and cessation of new water hookups be required of all communities using Colorado River water. A refusal to conserve water and a refusal to deny new water hookups should result in immediate cuts of Colorado River water deliveries. All communities should share in the results of drought conditions.

Opinions and Facts!

<http://tucsonpoly.blogspot.com>

 D.P. Niemi

Page 3-32, lines 1-4. The Upper Basin depletion schedules do include average annual evaporation losses from most reservoirs, including Navajo Reservoir. The depletion schedules shown in Figure 3.4-1, however, may not include Colorado River Storage Project reservoir evaporation at Lake Powell, Flaming Gorge Reservoir and the Aspinall Unit that is shared among the Upper Division states.

Page 4-8, lines 7-9. The EIS should clarify the physical and operational parameters associated with installation of the Southern Nevada Water Authority's third intake.

Page 4-9, lines 3-4. The EIS should include a disclaimer that while the modeling assumes that the United States will not operate the Yuma Desalting Plant, the use of this modeling assumption does not represent any determination by Reclamation or the United States as to whether the plant will or will not be operated in the future.

Page 4-51, line 7, through page 4-52, line 1. The text is not consistent with Figure 4.3-23 and Figure 4.3-24, which both indicate that the Lake Mead water surface drops below 1000 feet elevation in 2025 and 2026 under the Basin States alternative.

Page 4-174, lines 2-25. At high storage levels in Lake Powell, water in storage inundates a waterfall on the San Juan River that otherwise provides an effective barrier to fish movement up the river. Also, bluehead sucker and flannelmouth are common in the San Juan River.

Page A-3, line 2, through page A-4, line 9; and page A-6, lines 5-7. The modeling on which the EIS relies should reflect for Navajo Reservoir operations the preferred alternative in the April 2006 Final Environmental Impact Statement and June 2006 Record of Decision on Navajo Reservoir Operations. Under the Navajo Reservoir Operations ROD, the minimum and maximum releases from Navajo Dam are 250 cfs and 5,000 cfs, respectively, and seasonal Navajo Dam releases to the San Juan River are based on the San Juan River Basin Recovery Implementation Program's flow recommendations for the San Juan River below Farmington so as to provide for habitat needs of populations of Colorado pikeminnow and razorback sucker.

Page A-11, lines 1-5. The following opinion is provided should the Secretary in the future conduct a review of the algorithm for determining 602(a) storage requirements for Lake Powell. The active storage in Navajo Reservoir should not be considered in determining whether the 602(a) storage requirement is met. During extended drought, Navajo Reservoir storage is drawn down to meet water use demands of contractors and may not be available for delivery to Lee Ferry either physically or without impairing contract uses in New Mexico. About $\frac{3}{4}$ of New Mexico's Upper Basin uses are serviced from the Navajo Reservoir water supply. Using Navajo Reservoir storage for release in the 602(a) storage algorithm does not protect Upper Basin uses in New Mexico.

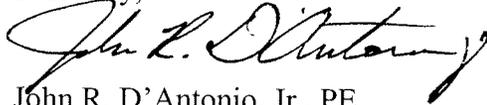
Page C-1, Table C-1. The State of New Mexico's most recent schedule of anticipated Upper Basin depletions is appended to the Bureau of Reclamation's May 2006 Draft Hydrologic Determination, and indicates depletions of up to about 642,000 acre-feet per year within New Mexico. Upon the Secretary of the Interior's approval of the Hydrologic Determination, the New Mexico depletions should be revised accordingly.

Page N-3, lines 17-29. The EIS should include a brief statement of potential shortcomings of the Direct Paleo technique consistent with such statements included for other techniques.

Bureau of Reclamation
April 30, 2007
Page 3

Thank you for the opportunity to comment on the DEIS.

Sincerely,

A handwritten signature in black ink, appearing to read "John R. D'Antonio, Jr.", written in a cursive style.

John R. D'Antonio, Jr., PE
Secretary

Copy: Scott Balcomb
Rod Kuharich
Dennis Strong
Patrick Tyrrell
Herb Guenther
Gerry Zimmerman
Richard Bunker
Pat Mulroy

JIM GIBBONS
Governor

STATE OF NEVADA

ANDREW K. CLINGER
Director



DEPARTMENT OF ADMINISTRATION

**209 E. Musser Street, Room 200
Carson City, Nevada 89701-4298
(775) 684-0222
Fax (775) 684-0260
<http://www.budget.state.nv.us/>**

April 24, 2007

Terrance Fulp
US Department of the Interior
Bureau of Reclamation
Lower Colorado Region
PO Box 61470
Boulder City, NV 89006

Re: SAI NV # **E2007-257**

Reference: **BCOO-1000 ENV-6.00**

Project: **DEIS for Lower Basin Shortages and Operations for Lk Mead and Lk Powell**

Dear Terrance Fulp:

Enclosed are comments from the agencies listed below regarding the above referenced document. Please address these comments or concerns in your final decision.

***Division of State Lands
State Historic Preservation Office***

The following agencies support the above referenced document as written:

Division of State Lands

This constitutes the State Clearinghouse review of this proposal as per Executive Order 12372. If you have questions, please contact me at (775) 684-0209.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gosia Sylwestrzak".

Gosia Sylwestrzak
Nevada State Clearinghouse

Enclosure

A rectangular tracking stamp with a grid of boxes. The date "4/30/07" is handwritten in the top right corner. The alphanumeric code "BCOO1000" and "1003" are handwritten in the middle right section. The stamp includes fields for "SEARCHED", "SERIALIZED", and "INDEXED", which are currently blank.

The Nevada Division of State Lands supports this proposal.

Skip Canfield, AICP

-----Original Message-----

From: Clearinghouse [mailto:clearinghouse@budget.state.nv.us]

Sent: Friday, March 02, 2007 10:46 AM

To: Skip Canfield

Subject: E2007-257 DEIS for Lower Basin Shortages and Operations for Lk Mead and Lk Powell - Lower Colorado Region

NEVADA STATE CLEARINGHOUSE

Department of Administration, Budget and Planning Division

209 East Musser Street, Room 200, Carson City, Nevada 89701-4298

(775) 684-0209 Fax (775) 684-0260

DATE: March 2, 2007

Division of State Lands

Nevada SAI # E2007-257

Project: DEIS for Lower Basin Shortages and Operations for Lk Mead and Lk Powell

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

<http://www.usbr.gov/lc/region/programs/strategies/draftEIS/index.html>

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than Tuesday, April 24, 2007.

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Gosia Sylwestrzak, (775) 684-0209 or <mailto:clearinghouse@budget.state.nv.us>.

No comment on this project Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

Distribution:

Gary McCuin, Department of Agriculture

Phillip Lehr, Colorado River Commission

Sandy Quilici, Department of Conservation & Natural Resources

Stephanie Martensen, Division of Emergency Management

Stan Marshall, State Health Division
Skip Canfield, AICP, Division of State Lands
Michael J. Stewart, Legislative Counsel Bureau
Sandi Gotta, Division of Conservation Districts
John Walker, Nevada Division of Environmental Protection
Catherine Cuccaro, Department of Transportation
Anthony Grossman, Department of Wildlife, Director's Office
D. Bradford Hardenbrook, Department of Wildlife, Las Vegas
Robert Martinez, Division of Water Resources
James D. Morefield, Natural Heritage Program
Steve Weaver, Division of State Parks
Mark Harris, PE, Public Utilities Commission
Pete Konesky, State Energy Office
Rebecca Palmer, State Historic Preservation Office
John Muntean, UNR Bureau of Mines
Jon Price, UNR Bureau of Mines
Cliff Lawson, Nevada Division of Environmental Protection
Russ Land, Nevada Division of Environmental Protection
Gosia Sylwestrzak, zzClearinghouse
Reese Tietje, zzClearinghouse -Reese
Maud Naroll, zzClearinghouse-Maud
Gosia Sylwestrzak, zzClearinghouse -Gosia

Rebecca Palmer

From: Clearinghouse [clearinghouse@budget.state.nv.us]
Sent: Friday, March 02, 2007 10:46 AM
To: Rebecca Palmer
Subject: E2007-257 DEIS for Lower Basin Shortages and Operations for Lk Mead and Lk Powell - Lower Colorado Region

NEVADA STATE CLEARINGHOUSE
Department of Administration, Budget and Planning Division
209 East Musser Street, Room 200, Carson City, Nevada 89701-4298
(775) 684-0209 Fax (775) 684-0260
DATE: March 2, 2007

State Historic Preservation Office

Nevada SAI # E2007-257
Project: DEIS for Lower Basin Shortages and Operations for Lk Mead and Lk Powell

Follow the link below to download an Adobe PDF document concerning the above-mentioned project for your review and comment.

<http://www.usbr.gov/lc/region/programs/strategies/draftEIS/index.html>

Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than Tuesday, April 24, 2007.

Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Gosia Sylwestrzak, (775) 684-0209 or <mailto:clearinghouse@budget.state.nv.us>

No comment on this project Proposal supported as written

AGENCY COMMENTS: *The SHPO looks forward to consultations with the NPS and BREC on the effect to cultural resources from the undertaking.*
Signature: *Rebecca Palmer* Date: *3/2/07*

Distribution:
Gary McCuin, Department of Agriculture
Phillip Lehr, Colorado River Commission
Sandy Quilici, Department of Conservation & Natural Resources
Stephanie Martensen, Division of Emergency Management
Stan Marshall, State Health Division
Skip Canfield, AICP, Division of State Lands
Michael J. Stewart, Legislative Counsel
Bureau Sandi Gotta, Division of Conservation Districts
John Walker, Nevada Division of Environmental Protection
Catherine Cuccaro, Department of Transportation
Anthony Grossman, Department of Wildlife, Director's Office
D. Bradford Hardenbrook, Department of Wildlife, Las Vegas
Robert Martinez, Division of Water Resources
James D. Morefield, Natural Heritage Program
Steve Weaver, Division of State Parks
Mark Harris, PE, Public Utilities Commission
Pete Konesky, State Energy Office
Rebecca Palmer, State Historic Preservation Office
John Muntean, UNR Bureau of Mines
Jon Price, UNR Bureau of Mines
Cliff Lawson, Nevada Division of Environmental Protection
Russ Land, Nevada Division of Environmental Protection
Gosia Sylwestrzak, zzClearinghouse
Reese Tietje, zzClearinghouse -Reese
Maud Naroll, zzClearinghouse-Maud
Gosia Sylwestrzak, zzClearinghouse -Gosia

THE SPARKS LAW FIRM, P. C.

Attorneys
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Susan B. Montgomery
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7503 First Street
Scottsdale, Arizona 85251
(480) 949-1339
FAX (480) 949-7587

April 27, 2007

4/30/07
4/20/07 BCOO-1000
1003
email to shadgas est.

Via U.S. Mail Certified - Return Receipt Requested
7006 0810 0000 6725 0808

BUREAU OF RECLAMATION
ATTN: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Re: Comments on the DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead - PASCUA YAQUI TRIBE

Dear Regional Director:

This Firm serves as Special Legal Counsel to the Pascua Yaqui Tribe ("Tribe") and submits the following comments on the *DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* ("DEIS"). The Tribe previously submitted written comments to the Bureau of Reclamation ("Reclamation") on August 31, 2005, and at meetings during scoping for the preparation of the DEIS. Those comments, including attachments, are incorporated here by reference.

The Pascua Yaqui Tribe is located in southeastern Arizona near Tucson, Arizona. The Reservation does not have an adequate water supply to serve the Reservation.

The Tribe has a Central Arizona Project Indian Water Delivery Contract Between the United States and the Pascua Yaqui Tribe dated December 11, 1980 ("CAP Contract"), a copy of which was previously provided in the Tribe's letter of August 31, 2005. This CAP Contract provides 500 acre-feet of CAP water to the Tribe.

THE SPARKS LAW FIRM, P. C.

April 27, 2007

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River management strategies or decisions which would increase the frequency of shortages or the participation of others in the shortage pools, or reduce the long-term reliability of the Tribe's CAP water by declarations of a "shortage," and other schemes which manipulate "credits", storage rights, and exchanges must be avoided. Several of the alternatives described in the DEIS present shortage sharing scenarios and "conservation" schemes that will substantially reduce the reliability of the Tribe's CAP water supply and will materially injure the right of the Tribe to receive this water supply under its CAP Contract.

Section 3.21 of the Tribe's CAP Contract defines a "**Time of Shortage**" as "**a calendar year for which the Secretary determines that a shortage exists pursuant to Section 301(b) of the Basin Project Act, such that there is not sufficient Project Water in that year to supply up to a limit of 309,828 acre feet of water for Indian uses, and up to a limit of 510,000 acre feet of water for non-Indian Municipal and Industrial uses.**" Under the Tribe's CAP Contract, deliveries of Project Water to the Tribe in Times of Shortage may be reduced or terminated in accordance with Section 4.9 of the Tribe's CAP Contract.

It is paramount that the Secretary of Interior ("Secretary") reject the proposed management strategies for Lake Powell and Lake Mead that would threaten the security or breach the Tribe's CAP Contract or breach the Secretary's trust responsibility to properly manage and protect the Tribe's CAP water as an Indian Trust Asset.

The Tribe has always understood the terms of the CAP Contract relating to shortage to mean that delivery of CAP water depends upon the physical situation of the Colorado River and not upon a scheme of management in which some are benefitted while others are not. The Secretary owes the Tribe a trust duty to refrain from implementing management strategies which interfere with the Tribe's contractual rights and expectation of delivery of CAP water and funding for construction and the payment of OM&R

THE SPARKS LAW FIRM, P. C.

April 27, 2007

Page 3

from the power generation revenues and Lower Colorado River Basin Development Fund under its CAP Contract.

The following is a list of the Tribe's primary objections and concerns regarding the DEIS:

1. The DEIS Does Not Discuss How Shortages of the Natural Flow of the Colorado River Will Be Shared from Year to Year Between the Upper Basin and Lower Basin States

The DEIS provides no discussion as to how shortages in the annual natural flow of the Colorado River which is not adequate to meet the 15 m.a.f. of apportionments to the Upper and Lower Basin States will be imposed as between the Upper Basin and Lower Basin. The DEIS must first discuss how shortages would be borne between the Upper Basin and Lower Basin, before discussing the allocation of water that is stored in the Colorado River reservoirs. The Secretary must first look to the annual natural flow of the River to provide the water supply that is to be apportioned.

Thereafter, the Secretary may look to the water which is stored in the reservoirs in the Lower Basin to provide the supplemental supply to meet the apportionment entitlements of contractors in the Lower Basin States.

2. The DEIS Cannot Lawfully Place Precedence Upon the Nevada Intake at 1050' Elevation Over the Requirements that the Tribes Receive Their Entitlements from the Colorado River to Provide for Their Permanent Tribal Homelands

The DEIS should not place precedence and limit considerations regarding the mark at which shortages will be declared based upon the location of the State of Nevada's intake at the 1050' elevation in Lake Mead. While Nevada may deepen its intake facilities into Lake Mead to mitigate impacts when a shortage is declared on the River, the Tribes have very few, if any, alternatives to enable them to obtain access to Colorado River water or replacement water supplies to provide for their Permanent Tribal

THE SPARKS LAW FIRM, P. C.

April 27, 2007

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Homelands. The DEIS should consider alternatives for shortage based upon the Secretary's obligation to protect and make available the Colorado River water supply to the Tribes, and to the long term reliability of the water supply for all contractors with rights to the River. The man-made intake facilities at Lake Mead for Nevada may be readily altered to correspond with the possibility of shortage, and thus, should be of little or no concern with regard to the management of the River, as opposed to those who have no other options.

The Law of the River does not allow the Lower Basin water supply to be managed primarily to serve one State or interest over another. The sole beneficiary of the Lake Mead scenario is Nevada, to the detriment of others, including the CAP Tribes. The alternatives must be adjusted to provide scenarios with equal consideration of the importance of the delivery of CAP water to the Tribe.

3. **The DEIS Erroneously Assumes that the Tribe is a Subcontractor of the Central Arizona Water Conservation District**

The DEIS erroneously assumes and conveys that the Tribe is a subcontractor of CAP water under the Central Arizona Water Conservation District ("CAWCD"), a political arm of the State of Arizona. *See* Appendix E at E-1, showing the CAWCD as the entitlement holder for all CAP water. On the contrary, the Tribe has a **direct** contract with the Secretary of Interior for the delivery of its CAP water, and the United States has a **direct** obligation to deliver this water pursuant to the Tribe's contract. *See* Tribe's CAP Contract. This misstatement should be corrected throughout the DEIS.

Since the Tribe is a direct contractor with the Secretary, it must be treated on a co-equal level with that of CAWCD and other contractors in other states with direct contracts with the Secretary to receive the waters of the Colorado River. CAWCD also has a direct contract with the Secretary for the delivery of the non-Indian portion of CAP water and an obligation to repay the cost of the non-Indian portion of the CAP project to the United States.

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The Tribe's water right to CAP water is a portion of Arizona's equitable apportionment under *Arizona v. California* that must be directly protected by the Secretary as an Indian Trust Asset for the Tribe. The State of Arizona should have an interest in protecting the Tribe's CAP water supply. However, the State's conduct in this matter shows that its sole interest and effort is focused upon committing the Tribe's CAP water supply to non-Indian use, preventing the Tribe from ever using the "wet" water to which the Tribe has a right under its CAP Contract. Its conduct also indicates that the States seeks to take and keep the financial benefits from the CAP water to which the Tribe is entitled, which is presently diverted and unlawfully "converted" to use by the State and other non-Indian interests.

4. Use of Reservoirs to Store and Deliver "Conserved" Colorado River System and Non-System Water

The DEIS, at ES-2, lists one of the purposes of the proposed federal actions as to "[a]llow for the storage and delivery, pursuant to applicable federal law, of conserved Colorado River system and non-system water in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions." While this purpose appears to be reasonable and foresightful, the method of implementing this purpose, as proposed in certain of the DEIS alternatives, will result in a wholesale taking of the Tribe's CAP water, and allow the Tribe's water to be committed to use by others. This is a violation of the Law of the River and of the Tribe's CAP water rights which are Indian Trust Assets that must be protected by the Secretary.

"The States [in the Basin States Alternative] propose that the Secretary develop a policy and accounting procedure concerning augmentation, extraordinary conservation, and system efficiency projects, including specific extraordinary conservation projects, tributary conservation projects, introduction of non-Colorado River system water, system efficiency improvements and exchange of non-Colorado River System water. The accounting and recovery process would be referred to as

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‘Intentionally Created Surplus’ consistent with the concept that the States will take actions to augment storage of water in the Lower Colorado River Basin. The water would be distributed pursuant to Section II(B)(2) of the Decree and forbearance agreements between the States. The ICS credits may not be created or released without such forbearance agreements.” (Appendix at J-11).

However, substantially all, if not all, of these “policy and accounting procedures” are based on a fiction. All of the Colorado River water, natural flow, storage, and surpluses are committed by contracts with the Secretary and the Treaty with the Republic of Mexico. There are no unallocated or uncommitted amounts of Colorado River water possible, including the fictional “Intentionally Created Surplus.” The fictional “Intentionally Created Surplus” is actually an attempt to convert the water that is committed to some other use to another entity.

Due to its position, the State of Arizona has a particular interest in “conservation” methods for the Colorado River that would preclude the Arizona Tribes from participation. Once the same Colorado River water is labeled “conserved” by a particular party, the party (such as the State of Arizona) will preclude the Tribe from participating in the benefits of the “conserved” Colorado River water.

The use of the “conserved” water that will be stored in the reservoirs and claimed exclusively by the State of Arizona (which thereby excludes Arizona Indian Tribe access) will reduce and manipulate the amount of water from the Colorado River and its storage that could be used by the Tribe from year to year to fulfill their CAP water orders. This manipulation of the Colorado River water source to preclude its lawful use by the Tribe is a violation of the Law of the River and a violation of the Tribe’s CAP Contract.

Furthermore, the States cannot enter into forbearance agreements or shortage sharing agreements amongst themselves where the rights of Arizona Tribes to their share of Arizona’s equitable

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apportionment to the Colorado River would be manipulated by the States. *See e.g.* Appendix J-10 (“Arizona and Nevada will share shortages based on a shortage sharing agreement. In the event that no agreement has been reached, Arizona and Nevada will share shortages in accordance with the 1968 Colorado River Basin Project Act, the Decree, other existing law as applicable, and the Interstate Banking Agreement between Arizona and Nevada parties.”). The participation of the Arizona Tribes in the forbearance agreements or any other agreements between Arizona and other States, as co-equal water users of Arizona’s equitable apportionment, is required by the Law of the River, and by the direct contracts of the Tribes with the Secretary of Interior.

The proposed alternatives must be revised so that any “conservation” regime used to reduce the potential conditions which may cause or enable the Secretary to make declarations of shortage on the Colorado River, or used to provide additional waters to Arizona (including Arizona Tribes), include all Arizona CAP Tribes in the mutual “wet water” and financial benefits of such schemes. Otherwise, the Tribes will be subject to significant injury as a result of the manipulation schemes in violation of the Law of the River, and the contractual and constitutional rights of the Tribes.

5. The DEIS Does Not Discuss the Legal Authority for Allowing Credits for Fallowed Lands, Canal Lining and Other “Conservation” Measures

The DEIS does not discuss any legal authority which would permit the States to obtain credits for “fallowing” lands, canal lining and other measures undertaken to purportedly “conserve” Colorado River water. Under the law in Arizona, other western States and Federal Reclamation Law, the waters “conserved” by the fallowing of lands and the lining of canals is committed back to the stream flow to be used by the next water user in the system. *See Phelps Dodge Corp. v. Ariz. Dep’t of Water Res.*, 2005 Ariz. App. LEXIS 108 (Ariz. Ct. App. 2005) (observing that water rights in Arizona are “. . . usufructory, to ensure a maximum beneficial use of Arizona’s water resources.”) (citing *Clough v. Wing*, 2 Ariz. 371, 379-81, 17 P. 453, 455-56 (Terr. 1888)); *Salt River Valley Water Users’ Ass’n v. Kovacovich*, 3. Ariz.

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App. 28, 411 P.2d 201, 203 (Ariz. Ct. App. 1966) (“any practice, whether through water-saving procedures or otherwise, whereby [a diverter] may in fact reduce the quantity of water actually taken inures to the benefit of other water users and neither creates a right to use the waters saved as a marketable commodity nor the right to apply same to adjacent property having no appurtenant water rights.”); Kinney, *Treatise on the Law of Irrigation and Water Rights and the Arid Region*, (2nd Ed. 1912), §782, 783.

The DEIS must discuss what legal authority would permit the States to commit “conserved” water to inure to the benefit of a single party or particular beneficiary, rather than for the use and benefit of **all** users in the Colorado River system under the Law of the River. Furthermore, if such a “conservation” scheme could be lawfully implemented and used to benefit particular parties or beneficiaries, the Tribes must be permitted to participate, and the Secretary must fully support and protect the Tribe’s full and unfettered participation and receipt of benefits.

6. Use of Surplus by Basin States

The Basin States Alternative also proposes a different scheme for the distribution of surplus. For instance, the Basin States Alternative would “[d]istribute Arizona’s share to surplus demands in Arizona including off stream banking and interstate banking demands.” *See* Appendix at J-9. The problem is that based upon historical and present practices by Arizona (which is charged with protecting the entire State’s equitable apportionment from the Colorado River, including that which is used by the Tribes) the State would nevertheless use this surplus for the benefit of non-Indians, to the exclusion of the Tribes. In fact, the State of Arizona is engaging in this conduct now, through, *inter alia*, the Arizona Water Banking Authority and the interstate water banking agreement with Nevada. The Secretary’s approval of the Basin States Alternative would put the weight of authority of the United States behind these wrongful acts by the State of Arizona.

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The Secretary should not select the Basin States Alternative or any other alternative, where it would exclude Tribes from participation in the arrangements made on the Colorado River during times of surplus. In addition, the Secretary must include the Arizona Tribes and ensure that the Arizona Tribes receive the mutual benefits of surplus on the Colorado River.

7. The DEIS Does Not Provide Adequate Details Regarding the Basin States Proposal for Accounting Policy and Procedure for Intentionally Created Surplus

The DEIS does not provide sufficient detail regarding the alternatives for the accounting policy and procedure that the Secretary would implement for Intentionally Created Surplus or any other “conserved” water. Without this detail, it is unclear as to how the CAP Tribes would be permitted to participate in the ICS and the impact of the uses of the ICS upon the Tribes. This should be corrected in the DEIS.

8. The Arizona Water Settlements Act, P.L. 108-451 Is Not Yet Enforceable

The DEIS’ underlying assumption and reliance upon the AWSA as defining the characteristics of the CAP is premature. *See* DEIS at 4-81. The AWSA is not yet enforceable and may never become enforceable. If so, the DEIS or Final EIS intended to be published by December 2007, will require immediate revision and further public comment. In addition, the existing DEIS should include an impact analysis which compares the impacts under the present characteristics of the CAP with the impacts under the characteristics which would exist if the AWSA were to become enforceable.

9. There Is No Misunderstanding As To How Shortages Are To Be Distributed Between CAP Indian and M&I Priority Users Within the CAP

The DEIS states that “prior to the enactment of the AWSA, there were differing views as to how mild shortages would be distributed between CAP Indian and M&I priority users.” (DEIS at 4-124).

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While there may be so-called “differing views”, the Tribe’s CAP Contract is very clear regarding how shortages are to be implemented as to the Tribe. Furthermore, the AWSA did nothing to clarify how such shortages are shared, because the Tribe’s CAP Contract cannot be affected or modified by the AWSA. The DEIS and its underlying assumptions must be changed to reflect and analyze the true nature of the Tribe’s CAP entitlement and how shortages within CAP will be implemented as to the Tribe.

10. The DEIS Does Not List or Discuss the Impacts to the Tribe’s CAP Entitlements

The Tribe has a contractual right to CAP water under a direct contract with the United States. As reflected in the DEIS, the Tribe’s CAP Contract could be used to satisfy the Tribe’s *Winter’s* or federal reserved water rights. Since this water could be used in this way, the DEIS should analyze the impact of the shortage criteria as an Indian Trust Asset. In addition, since the Tribe has a direct contract with the United States on a co-equal basis with CAWCD, the DEIS should analyze the impact of shortage sharing upon the Tribe separately from any analysis of shortages which pertains to other CAP water users.

11. The DEIS Fails to Adequately Discuss or Analyze the Impacts of the Alternatives Upon the Tribe

The DEIS finds that “No vested water right of any kind, quantified or unquantified, including federally reserved Indian rights to Colorado River water, rights pursuant to the Consolidated Decree or Congressionally-approved water right settlements utilizing CAP water, will be altered as a result of any of the alternatives under consideration.” DEIS at 4-123. This is incorrect.

The DEIS erroneously attempts to delineate between a paper water right and wet water. These are one in the same. Whether or not the paper water right becomes wet water is determined by whether or not the law is followed and whether or not the Secretary undertakes actions (or fails to take actions) which diminish the reliability or injure the ability of the Tribe to receive its wet water. The

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implementation of shortage sharing criteria which would hinder the Tribe's ability to receive the water to which it is entitled, and the selection of an alternative which would permit waters to be "conserved" and committed to exclusive use by certain parties, alters the reliability of the Tribe's entitlement to CAP water. The DEIS cannot distinguish between the effect of the alternative upon the legal entitlement of the Tribe versus the effect upon the Tribe's receipt of the wet waters pursuant to the legal entitlement.

The DEIS proposes alternatives which will impact and diminish the reliability of the CAP water supply and thus, injure the ability of the Tribe to receive the wet water to which it is entitled. The Secretary is charged with the responsibility to implement shortage sharing criteria which protect the Tribe's receipt of the CAP water supply which is an Indian Trust Asset. The DEIS must analyze the impacts upon the Tribe's receipt of the water to which it is entitled, and not merely make a statement that the alternatives will have "no effect" upon the Tribe's legal entitlement to the CAP water. A policy which proclaims no impact on the Tribe's legal entitlement which results in **no wet water** to fulfill its entitlement is deceptive and amounts to invidious discrimination. The DEIS' avoidance of discussing the true impact of the alternatives upon the Tribe must be corrected.

12. The DEIS Fails to Discuss How "Voluntary" Shortages Would Be Implemented and Their Resultant Effect Upon the Tribe and Its Right to CAP Water

The DEIS mentions that certain "voluntary" shortages could be implemented. DEIS at 4-12.

However, the DEIS is unclear as to who would agree to such voluntary shortages. The Secretary cannot permit the State of Arizona to decide whether or not it would enter into a voluntary shortage, where such shortage would diminish the reliability of the Tribe's CAP water. This is simply unlawful. Furthermore, the Secretary cannot allow other states to enter into "voluntary" shortages and alternative River management schemes that would create conditions where the Tribes were required to bear shortages that

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would not otherwise be borne, absent such voluntary agreements or schemes. The DEIS fails to discuss this in any detail. The DEIS should be revised for clarity and to provide a meaningful analysis of the impacts of the proposed “voluntary” shortages to the Tribe’s receipt of its CAP water supply.

13. The DEIS Fails to Discuss the Potential Impact of Any of the Alternatives on Water Quality or Quantity to Which the Republic of Mexico is Entitled Under Treaty

The DEIS fails to discuss the potential and ongoing environmental impacts of any of the alternatives on the Colorado River delta, including wet lands, and the fact that the delta is one of the primary marine nurseries supporting aquatic life, fisheries and migratory wildlife subject to international treaties, and the ultimate fish production and annual catch allocated among countries of the Pacific Rim. The alternatives proposed by the DEIS, with the increase in use of the Colorado River proposed by the alternatives, including the Basin States Alternative, will undoubtedly impact the delta.

Please continue to keep this Firm on your mailing list for all future communications and documents related to this matter.

Yours Truly,

THE SPARKS LAW FIRM, P.C.



Robyn L. Interpreter

RLI/rli

cc: Herminia Frias, Chairwoman
Peter Yucupicio, Vice-Chairman
Council Members
Justin Ruggieri, Interim Attorney General
Pilar Thomas, Assistant to Chairwoman

>>> "Evelyn Bester" <Evelyn.Bester@peoriaaz.gov> 04/30/07 9:36 AM >>>
Please note the attachement, "City of Peoria Enviromental Impact
Statement"

Also the original document was mailed via US postal on Friday, April
27,
2007. If you have any questions or concerns, please contact our
Water
Resource Manager, Bradley Hill @ 623-773-7561 or email
Bradley.Hill@peoriaaz.gov <<mailto:Bradley.Hill@peoriaaz.gov>> .

Thank you,

Evelyn Bester on Behalf Bradley Hill
Administrative Assistant
City of Peoria Utilities Department
Water Resource & Conservation
623-773-7561
623-773-7291 fax
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City of Peoria

Utilities Department

8401 West Monroe Street, Peoria, Arizona 85345

Phone: 623-773-7286 Fax: 623-773-7291

April 27, 2007

Regional Director, Lower Colorado Region
U.S. Bureau of Reclamation
ATTN: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

RE: Draft Environmental Impact Statement (EIS) for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Thank you for the opportunity to review the above referenced draft EIS document and this letter contains the City's comments. Since Colorado River supplies via the Central Arizona Project make up nearly 46% of the City of Peoria's existing state certified renewable water supplies, the selection of the Basin States Alternative as the preferred alternative is an important one for our community. This alternative is the one that can be immediately implemented without additional statutory authority. This implementation would help to decrease the existing uncertainties related to future Lower Colorado River basin water supply shortages and their magnitude.

First, the City of Peoria supports the concepts and comments on the above referenced draft EIS outlined in letters by the Arizona Department of Water Resources letter on behalf of the State of Arizona and the Arizona Municipal Water Users Association letter on behalf of the central Arizona urban communities

One specific comment on the draft EIS is a question and suggestion. We are interested in why the report did not assume the Yuma Desalting Plant was operational? This assumption ignores a potential valuable water source which could help to minimize future supply shortages for the State of Arizona and the Central Arizona Project more specifically. We would recommend this important facility be included in this analysis.

Finally, the City of Peoria has expended significant funds to actively manage its water resources, implementing comprehensive water conservation programs and preparing for drought conditions for the past decade. It would appear the City would be penalized for

**Page 2 of 2: City of Peoria, Arizona Comments on the Draft Environmental Impact Statement
Colorado River Interim Guidelines for Lower Basin Shortages
and Coordinated Operations for Lake Powell and Lake Mead**

these efforts based on our reading of the EIS. Specifically, the City has recently spent over \$191 million on groundwater recharge facilities, groundwater supply wells, reclaimed water facilities and additional water rights in order to diversify its water supplies and infrastructure. The City adopted an ordinance to require a level of system redundancy (i.e., back-up water supply) and most recently adopted a Drought Contingency Plan in 2003. The adoption of the Basin States Alternative as the preferred alternative will provide the necessary protection and certainty to permit the City to continue planning for the adverse impacts of potential Colorado River shortages. We don't believe the City of Peoria should be penalized for these forward thinking efforts.

Again, thank you for the opportunity to provide these comments.

Sincerely,

A handwritten signature in black ink that reads "Bradley M. Hill". The signature is written in a cursive style with a large, sweeping initial 'B'.

Bradley M. Hill
Water Resources Manager

c: Terry Ellis, City Manager
Herb Guenther, Director - ADWR
Sid Wilson, General Manager, CAWCD

From: yvonne.garcia@phoenix.gov
Sent: Monday, April 30, 2007 2:09 PM
To: strategies@lc.usbr.gov
Cc: tom.buschatzke@phoenix.gov
Subject: Comments on the Draft EIS

Importance: High

Attachments: DEIS Colorado River Comment Letter.pdf

Attention: Regional Director

The original will follow via US mail.

Yvonne Garcia
City of Phoenix
Office of the City Manager
602-262-7941 office
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for
Tom Buschatzke, Water Advisor
City of Phoenix
Office of the City Manager
602-261-2532 office
tom.buschatzke@phoenix.gov



City of Phoenix
OFFICE OF THE CITY MANAGER

April 30, 2007

Regional Director
Lower Colorado Region
Bureau of Reclamation, Attention BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Re: Notice of Availability and Notice of Public Hearings for the Draft Environmental Impact ("EIS") Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

Dear Director,

The City of Phoenix ("City") submits its comments to the Draft EIS for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (72 Fed. Reg. 9026 dated February 28, 2007). The City is keenly interested in the outcome of the shortage criteria and coordinated operations for Lake Powell and Lake Mead. The City has previously commented during the scoping process pursuant to the Notice of Intent to prepare the EIS. Likewise, the City has directly participated in the negotiations between the Seven Colorado River Basin States culminating in the Seven Basin States proposal to the Secretary of the Interior dated February 3, 2006 and in stakeholder meetings within the State of Arizona resulting in shortage criteria proposed to Reclamation by the Arizona Department of Water Resources and agreed upon by all the Basin States. Phoenix' commitment to these processes is a necessary outgrowth of its reliance upon Colorado River water, delivered through the Central Arizona Project ("CAP"). The City serves over 1.4 million people and Colorado River water currently supplies over 35% of its total water demand. The City's CAP water supplies include sources with a variety of priorities, and its exposure to shortages varies accordingly. The City holds subcontracts for Municipal and Industrial priority water and leases for Indian priority water. The City also holds a contract for a substantial volume of lower-priority non-Indian agricultural CAP water. As a result, the City must consider many potential drought scenarios that the majority of the municipalities relying upon CAP water do not need to be concerned with.

The City's plight is further complicated by the fact that the CAP is the major junior priority user under the Law of the River. It is imperative that the Secretary of the Interior ("Secretary") be mindful of this factor when selecting and implementing a preferred alternative. Thus, Arizona water users face the greatest risks when a shortage declaration is made and the preferred alternative must recognize and minimize impacts to those water users.

The City has a long-standing track record of sound water resources management including diversifying its water resources portfolio, building integrated infrastructure to allow efficient use of those resources, reusing reclaimed water, a strong water conservation program that has been in place for over two decades that has resulted in declining rates of water use and a drought management program that allows for the imposition of mandatory demand reductions. Despite all these efforts by the City, catastrophic shortages on the Colorado River could pose serious problems to the City's ability to continue to fully serve its customers.

The Proposed Alternatives

The Final EIS Should Designate the Basin States Alternative as the Preferred Alternative

The Basin States Alternative provides the greatest degree of certainty for the City of Phoenix because it is consistent with the agreement reached by the Basin States and can be implemented upon approval of the Record of Decision ("ROD") without the need for additional action. This alternative best meets the goals of the proposed action discussed in the February 28, 2007 Federal Register Notice, i.e., "[T]his action is proposed in order to provide a greater degree of certainty to U. S. 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 managers and water users in the Lower Basin to know when, and by how much, water deliveries will be reduced in drought or other low reservoir conditions." (72 Fed. Reg. 9027 dated February 28, 2007.) Moreover, certainty provided by the Basin States Alternative goes well beyond the actual criteria and numbers. The Agreement reached by the Basin States, and reflected in the Basin States Alternative, creates an increased level of confidence that legal issues over the interpretation and implementation of the Colorado River Compact, the Mexican Treaty, accounting under the Arizona v. California Decree, and equalization of Lake Mead and Lake Powell will not result in costly and divisive litigation with an uncertain outcome for water users. The value of collaboration by the Basin States can not be overstated.

Another unique attribute of the Basin States Alternative is that it provides flexibility within the system and a mechanism, that can be immediately implemented upon execution of the ROD, for maximizing the efficiency of the system by allowing for the intentional creation of surplus ("ICS") in Lake Mead by a Lower Colorado River Mainstem contractor and release of that surplus for use within the state that created it, with the forbearance of the other Lower Division States. The State of Arizona recently enacted legislation that allows the State to forbear ICS water if the Secretary "adopts substantially the same concepts as contained in the proposal of the seven basin states for shortage guidelines and conjunctive management of lakes Mead and Powell," clearing the way, at least from Arizona's perspective, for ICS to be implemented if that alternative is memorialized in the ROD.

Certainty for water users and the ability of the Basin States Alternative to be immediately implemented is also enhanced by the fact that the Lower Colorado River Multi-Species Conservation Plan ("MSCP") provides compliance with the Endangered Species Act ("ESA") given the reductions of flow proposed in the Basin States alternative and the reductions analyzed in the MSCP. Additional ESA consultation that may be required under other alternatives raises uncertainties regarding the implementation schedule for those alternatives.

The Basin States Alternative is the only alternative that allows for the extension and modification of the existing Interim Surplus Guidelines ("ISG") without the need for further action. The package submitted to the Secretary by the Seven Basin States on February 3, 2006 includes provisions to amend the ISG by agreement of all the States. The Basin States Alternative adopts those amendments.

Finally, the Basin States Alternative is the only alternative that meets all the criteria discussed in Section 1.1 of the Draft EIS that states, "[T]he Secretary intends to consider, adopt and implement the proposed federal action consistent with applicable federal law and judicial decisions, and, further, in a manner that will not require any additional statutory authorization." (DEIS at p. 1-1).

The No Action and Water Supply Alternatives

The No Action and Water Supply Alternatives analyze a broad range of environmental impacts but fall short of meeting the goals of the proposed action by failing to provide certainty for the timing and extent of shortages in the Lower Basin and by failing to propose viable criteria for the coordinated management of Lake Powell and Lake Mead. These two alternatives do not allow for the creation or use of ICS thus limiting flexibility in the operation of the system and creating greater risk and uncertainty regarding shortages for water users in the Lower Basin.

The Reservoir Storage Alternative

The Reservoir Storage Alternative ("RSA") proposes levels of shortages starting at 600,000 AF and increasing to 1,200,000 AF and the magnitude of the average shortage volumes during the interim period are the highest under this alternative. (DEIS at p. ES-10). Shortage levels beyond 600,000 AF (including 17% for Mexico or 500,000 AF just for the Lower Basin) are draconian in nature for Arizona water users on their face, and their adoption can not be justified when compared to reductions of 400,000 AF, 500,000 AF and 600,000 AF (including 17% for Mexico or 300,000 AF, 400,000 AF and 500,000 AF just for the Lower Basin) proposed under the Basin States Alternative. The Basin States recognized the harsh nature of shortages greater than 600,000 AF (including 17% for Mexico or 500,000 AF just for the Lower Basin) and have agreed to consult with the Secretary if shortages are projected to exceed this volume (Seven Basin States Letter to Secretary Norton, February 3, 2006, Attachment A., at p.6). The RSA does not meet the goal stated in the Federal Register Notice, i.e., "to (1) Improve Reclamation's management of the Colorado River by considering the trade-offs between the *frequency*

and magnitude of reductions of water deliveries..." (72 Fed. Reg. 9027 dated February 28, 2007. emphasis added). Furthermore, this alternative would require changes to the Law of the River prior to its implementation.

The Conservation Before Shortage Alternative

The Conservation Before Shortage Alternative ("CBS") also falls short of meeting the certainty provisions of the proposed action as evidenced in Table ES-1, Matrix of Alternatives. Column one of that table states that for the CBS alternative, "shortages are implemented in any given year to keep Lake Mead above SNWA's lower intake at elevation 1000' (absolute protect of elevation 1,000)." Water users in the Lower Basin will be left to the whims of the Annual Operating Plan for determining when and how much of a shortage will be declared under this alternative. This greatly reduces certainty for water users like Phoenix.

This alternative is also dependent upon the creation and use of ICS but reliance upon ICS would require changes to the Law of the River prior to this part of the alternative being implemented. In addition to this inherent fatal flaw, the City also points out that this alternative essentially would allow 4.2 million AF to be stored in Lake Mead compared to a maximum storage of 2.1 million AF under the Basin States Alternative. Creating ICS of this magnitude could create too much risk for losing expensive ICS water to spills in wet years and earmark too much Lake Mead water for a particular water use, rather than for the system.

Two additional drawbacks of the CBS alternative are: (1) no funding mechanism for creation of ICS currently exists; and (2) including ICS by the Republic of Mexico may necessitate amending the 1944 Treaty to allow for the creation and delivery of ICS water to Mexico. Reclamation recognizes the limitations of the CBS alternative by stating, "[T]he viability of the Conservation Before Shortage program funding proposal is not known at this time. Reclamation currently does not have authority to implement all facets of this proposal and additional legislation would be necessary to gain such authority." (Draft EIS at p. 2).

Summary

When weighing the proposed alternatives against one another it is evident that the Basin States Proposal is superior to any of the other alternatives because it provides the greatest degree of certainty to water users, avoids potential litigation, creates shortage criteria that are reasonable in magnitude and are readily predictable based upon elevations at Lake Mead, and present a package that can be implemented without the need for further legislation or ESA compliance.

Furthermore, the Basin States Alternative best meets all the aspects of the purpose and need for the action and has the support of the Basin States which will enhance the Secretary's ability to manage the Colorado River system in a collaborative manner. The City of Phoenix urges the Secretary to adopt the Basin States Proposal as the preferred alternative in the Final EIS.

Conjunctive Operation of Lake Mead and Lake Powell

The Basin States Alternative creates the ability to more effectively balance the contents of Lake Mead and Lake Powell in a way that dampens the large fluctuations in reservoir elevations during extended periods of low inflow into the system. That alternative also removes potential issues over the methodology for equalizing the contents of Lake Mead and Lake Powell under other proposed alternatives.

Currently equalization is largely governed by the Interim 602(a) Storage Guideline for Management of the Colorado River which contains a 14.85 million acre-feet storage requirement. That guideline artificially limits equalization and has a detrimental effect on storage in Lake Mead and thus on the City of Phoenix. While the current guideline was also part of a package agreed to by the Seven Basin States as part of the ISG process, it essentially provides for greater protection for power production at Lake Powell than is otherwise authorized under the Law of the River. The Basin States Alternative replaces this equalization requirement in favor of a strategy that is not as onerous for the City.

As stated in the City's scoping comments dated November 30, 2005, water supply has a higher priority than hydro-generation and water users in Phoenix should not be subject to shortages for the benefit of hydropower production. Absent the adoption of the Basin States Alternative (and after the expiration of the ISG in 2016) the City believes the Secretary must adhere to the following: (1) the 602(a) storage algorithm must be reviewed and revamped so that it accurately reflects the requirements of Section 602(a) of the Colorado River Basin Project Act of 1968; (2) the algorithm should be changed so that the current storage in Lake Powell of an additional amount over 5 million acre-feet to protect hydropower production is no longer included in the operating criteria; (3) actual Upper Basin depletions and a measurable realistic projection of new depletions to calculate the 602(a) storage requirement must be incorporated into the algorithm. The use of overstated depletion schedules results in significant increases in Lake Powell storage before equalization occurs; and (4) review the methodology that determines available storage in reservoirs authorized by the Colorado River Storage Project Act to determine whether forecasted active storage in the Upper Basin is greater than the Section 602(a) storage requirement under subarticle II(3) of the Coordinated Long-Range Operation of Colorado River System Reservoirs to insure that active storage in the Upper Basin is being properly calculated.

If the Basin States Alternative is adopted and implemented in the guidelines set out in the ROD, at the end of the interim period in 2026 or if the guidelines are changed, whichever comes first, Reclamation can not revert to its current interpretation of the 602a requirements. In that case, Reclamation must consult on the modification of the guidelines to make them consistent with the legal priorities established by the Law of the River.

For these reasons and because the coordinated operations of Lake Powell and Lake Mead are essential components to shortage criteria, the Secretary should adopt the Basin States Alternative.

The Record of Decision and Implementation of the Preferred Alternative

The City supports the Basin States Alternative as the preferred alternative and recommends that it be incorporated into the Record of Decision ("ROD") in a way that parallels the Interim Surplus Guidelines ROD. The City believes that the Secretary should work with the Basin States to create specific implementation criteria and guidelines consistent with the adoption of the Basin States Alternative as the preferred alternative. That document will serve as a road map that the City can then rely upon to better manage its water supplies and to better prepare for shortages. To effectuate those guidelines and criteria so that the certainty outlined in the proposed action is achieved, the City urges the Secretary to include a statement in the ROD that "during the effective period of the guidelines the Secretary shall utilize the established process for development of the Annual Operating Plan for the Colorado River System Reservoirs (AOP) and shall use those guidelines to make determinations regarding normal, surplus and shortage conditions for the operation of Lake Mead and for the coordinated management of Lake Mead and Lake Powell."

Cumulative Impacts of Shortages in Arizona

The DEIS has only attempted to analyze the socio-economic impacts for shortages in a single year. Analysis by the State of Arizona indicates a high probability that multi-year shortages will occur. The socio-economic impacts of multi-year shortages should be analyzed and incorporated into the Final EIS for all of the alternatives.

Socioeconomic Impacts to Municipal Water Users in Arizona

The DEIS does not adequately analyze and describe the impacts to municipal water users in Arizona or to the City of Phoenix in particular. The DEIS states, "Implementing statewide and local demand-side and supply-side strategies are expected to minimize adverse socioeconomic effects occurring during the maximum M&I shortage." This statement accurately reflects the strategies that Phoenix has historically used, and continues to use for determining its long-term need for water supplies, including supplies to help offset shortages. Likewise demand restrictions are also part of the City's plan for dealing with actual shortages. Phoenix' goal is to minimize the impacts on its citizens and on its economy. However, neither demand-side nor supply-side strategies and actions come without a substantial price. The DEIS does not analyze quantitatively, or even qualitatively, the costs associated with shortages. This is a glaring omission in the DEIS.

Arizona municipal water providers and the City of Phoenix have already expended substantial sums of money in anticipation of shortages on the Colorado River. Municipal water users in Arizona, including the City of Phoenix, will rely in part on recovery of water stored underground by the Arizona Water Banking Authority to make up for shortfalls due to Colorado River shortages. Through calendar year 2006, the Arizona Water Banking Authority ("Bank") has stored about 2,243,000 AF of water at a cost of about \$101 million. More appropriately for the City, about 1,158,000 AF of water at a cost of about \$63 million dollars has been stored in the Phoenix Active Management Area. Funding for the Bank comes primarily from a property tax in Maricopa, Pinal and Pima Counties, from a pump tax paid by groundwater users in

those counties and some appropriations by the Arizona Legislature. To prepare for the onset of Colorado River shortages through supply-side protection, significant sums have already been expended. Additional sums will be need to be expended to store additional water underground to meet the goals of the Bank, to replace the banked water when it is used, or for access to other supplies to make up shortfalls.

Because the City's municipal priority CAP water may not be fully replaced by the Bank and because the City uses non-agricultural priority CAP water and Indian lease water not eligible to receive water from the Bank during shortages, the City is pursuing the acquisition and use of drought back up water supplies and the infrastructure necessary to use those supplies. To date the City has stored 171,600 acre-feet at a cost of about \$7 million (excluding the capital costs of the facilities to store or treat water). Additionally, the City has embarked on a two year planning study to identify other options for supply enhancement for shortages. The cost of that study is estimated at about \$1.8 million and the implementation costs, once options are chosen, is expected to be in the range of \$50-100 million for both drought supplies and new supplies to meet normal demands.

Through the City's water resources planning function, a water resources plan is completed and published about every five years. The latest plan, the Water Resources Plan, 2005 Update, concludes that in extreme drought supply enhancement will not be sufficient to deal with shortages. During moderate and extreme drought conditions the City will also implement its Drought Management Plan, first promulgated in 1993. That Plan, and the City ordinances implementing it, allow for mandatory reductions in deliveries to customers and thus require cut backs in water use. There is an additional cost, over the \$1.5 million the City is spending annually on its water conservation efforts, associated with implementing mandatory water user restrictions. In 2003 and 2004, in the midst of water allocations reductions by the Salt River Project, the City explored the costs associated with implementing Stage II of its Drought Management Plan which contains relatively benign mandatory water use restrictions. The estimated cost of implementing that program, at that time, was about \$1.5 million per year. Implementing Stage III and Stage IV restrictions would necessitate incurring even higher costs.

As the prior discussion clearly illustrates socioeconomic impacts on municipal water users in Arizona and on the City of Phoenix due to Colorado River shortages are significant and should be documented in the Final EIS.

Comments to Specific Portions of the EIS

The City offers the following comments to specific language included in the DEIS:

1. Section 2.3.1, line 28: The Seven Basin States proposal dated February 3, 2006 goes beyond "suggesting" that consultation occur when shortages greater than 600,000 AF are projected to occur. Because of the impacts on Arizona water users that will likely occur, that provision is an integral part of that proposed package.
2. P. 3-39, Section 3.4.6.1,

- a. Lines 11-16: It should be noted that the AWBA also provides for banked water to be use by municipal water users of Colorado River water both within and outside of the CAP service area.
- b. Lines 28-30: The Final EIS should incorporate the recommendation submitted to the Bureau of Reclamation on October 24, 2006 that presents shortage sharing criteria between on-river P4 water users in Arizona and CAP water users.
3. P. 3-40, Lines 3-5: The DEIS does not provide enough detail to address Arizona water users' efforts to prepare for drought. Individual water users adopted drought Plans over a decade before the statewide drought plan was created. The Arizona Groundwater Management Act, the Arizona Water Banking Authority and other state-wide and local government actions all contribute to Arizona's drought preparedness.
4. P. 3-42, Lines 1-6: The Final EIS should incorporate the terms of the Arizona-Nevada Shortage Sharing Agreement.
5. P. 3-87, Line 37: The City's lease for CAP water with the Salt River Pima-Maricopa Indian Community is for a term of 99 years, not 100 years.
6. P. 3-89, Lines 5-17: The Final EIS should clarify that the EIS assumed that the Gila River Community Indian Water Rights Settlement is in effect. The statement that "CAP water has already been leased to Phoenix area cities" is only correct if that assumption is made clear since the leases can not be consummated until the enforceability date of the Settlement.
7. P. 4-8, Lines 7-9: The Final EIS should recognize that the Southern Nevada Water Authority has plans to complete new intakes at Lake Mead to elevation 856' by 2011 and thus the "limitations" on SNWA's ability to pump from Lake Mead, or form the Colorado River, at that point in time will not be 1000'.
8. P. 4-8, Lines 31-36: The discussion of the bypass flows is confusing regarding the extent of the "obligation" to replace those flows. If a legal obligation to replace those flows exists, the Final EIS should cite to the controlling law, contracts, treaties or other legal instruments evidencing the obligation.
9. P. 4-9, Lines 3-4: The City continues to support the operation of the Yuma Desalting Plant at its full capacity to maximize the efficiency of Lower Colorado River operations.
10. P. 4-238, Lines 21-24: Any "benefits" of increased power revenues on the const of CAP water would likely be more than offset by increased delivery charges ("OM&R") to CAP water users when CAP deliveries are reduced because of shortages. The delivery rate paid by CAP water users will greatly increase because fixed OM&R, the numerator in the rate equation will remain the same, while water deliveries, the denominator in the rate equation, will be less. While the CAP Board of Director's may chose to artificially hold rates down to minimize "rate shock", there is still a negative economic consequence because the funds to hold down the rates will likely come from the tax payers or rate payers within the CAP.
11. P. 4-264, Lines 17-19: The Final EIS should recognize that the cost of water used in this analysis, the "price of excess water pools" for agricultural use is a subsidized water rate. The tax payers of Maricopa, Pinal and Pima counties pay

an ad valorem property tax set by the CAP Board of Director's. One of the uses for that tax is to lower the cost of water for the agricultural pool.

12. P. 6-3, Lines 3-9. The Final EIS should expand its discussion of Section 8 of the ESA so that it is clear that consultation through the Secretary of State is a voluntary and not a mandatory function.

Conclusion

The City of Phoenix reiterates that the Basin States Alternative is the only alternative that meets all the criteria defined in the proposed action for the EIS. The City urges that the Final EIS adopt the Basin States Alternative as the preferred alternative and that a Record of Decision be signed incorporating the terms of the Basin States Alternative.

Sincerely

A handwritten signature in cursive script that reads "Tom Buschatzke". The signature is written in black ink and is positioned above the typed name.

Tom Buschatzke
Water Advisor

COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES
AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD

- - - - -

KEY ASPECTS OF DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC MEETING

Q&A SESSION

Phoenix, Arizona
April 4, 2007
6:17 p.m.

REPORTED BY:
RABIN' MONROE, RMR, CR
CERTIFIED REPORTER
CR #50653

PREPARED FOR:
BUREAU OF RECLAMATION

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PUBLIC HEARING - 4/4/07

PUBLIC MEETING

1
2
3 BE IT REMEMBERED that the Public Meeting was taken
4 before RABIN' MONROE, RMR, CRR, Certified Reporter #50653,
5 in and for the County of Maricopa, State of Arizona, on
6 Wednesday, April 4, 2007, commencing at 6:17 p.m., at the
7 PHOENIX AIRPORT MARRIOTT, 1101 North 44th Street, Buckhorn
8 Room, Phoenix, Arizona.

9
10
11 A P P E A R A N C E S

12
13 BUREAU OF RECLAMATION:

14 TERRY FULP
15 NAN YODER
16 ROBERT ZOBIA
17 GREGG ROY
18 JAYNE HARKINS
19 CAROL ERWIN
20 AMBER CUNNINGHAM
21
22
23
24
25

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1 P R O C E E D I N G S

2

3 (Presentation by Terry Fulp.)

4 TERRY FULP: If there's any other questions, we'd
5 be glad to answer them, and if not, we're gonna turn it over
6 to see if you have any formal comments.

7 Yes, sir.

8 PLACIDO DOS SANTOS: Saw that there was
9 consultation with Mexico.

10 TERRY FULP: Yeah.

11 PLACIDO DOS SANTOS: And I was wondering if the
12 results of that consultation -- consultation are public.
13 Can we learn what they said?

14 TERRY FULP: They -- certainly we can provide the
15 materials we presented. In terms of their comments, they
16 also have been asked to submit formal comments. Those will
17 obviously be published and everyone can see those. But at
18 this point we've not planned to make these meetings, what's
19 been discussed, exactly available. We can make our
20 materials available to you, sir.

21 NAN YODER: Can you --

22 TERRY FULP: I'm sorry. Could we have your name?

23 PLACIDO DOS SANTOS: I'm sorry. I'm Placido dos
24 Santos with the Arizona Water Institute.

25 TERRY FULP: Yeah, that's a very good question.

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1 Might -- if you don't mind, I might just try to explain
2 something there, make sure it's very clear to us.

3 This is a U.S.-only action. The Secretary of the
4 Interior is only adopting these -- this proposed action
5 would only adopt it for U.S. users. It would not extend to
6 Mexico.

7 Now, in the draft EIS we made some modeling
8 assumptions with regard to how Mexico might share in
9 shortages, but that's essentially what they are, is
10 assumptions, modeling assumptions. We've certainly in our
11 consultations with Mexico explained that to them, explained
12 what we've assumed, you know, and explained all the stuff
13 we've talked to you about -- about tonight.

14 But the point I really want to make sure is clear
15 is there's a separate, parallel process through the State
16 Department and the International Boundary of Water
17 Commission that is dealing with how Mexico might in fact
18 incur water reductions under the treaty. It's not -- would
19 not be done in this process.

20 Does that make -- if that makes sense.

21 Any other questions?

22 ROBERT S. LYNCH: There are, however, assumptions
23 in the Seven Basin States Alternative with regard to
24 shortage-sharing by Mexico.

25 TERRY FULP: That's correct. And we, by the way,

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1 adopted those assumptions for this model.

2 Now, the key I want to make sure and state there
3 is those assumptions are consistent through all the
4 alternatives. We aren't changing between alternatives these
5 assumptions on how shortages will be shared.

6 So we -- again, because we're not doing that
7 analysis in this process, but ...

8 NAN YODER: And your name?

9 ROBERT S. LYNCH: I'm Bob Lynch. I'm an attorney
10 here in Phoenix, and among others I represent the Irrigation
11 and Electrical District Association of Arizona.

12 TERRY FULP: Great.

13 ROBERT S. LYNCH: I had a follow-up.

14 I've only had a chance to go through the executive
15 summary so far, but somewhere in the document do you explain
16 the differentiation among surpluses? There are four
17 surpluses on the river.

18 TERRY FULP: Yes.

19 ROBERT S. LYNCH: There's gonna be California,
20 Interim Surplus, RofA, and Treaty. And they use the same
21 word, but they use them in different contexts.

22 TERRY FULP: Yes, they do.

23 ROBERT S. LYNCH: And it can be very confusing.
24 I'm just wondering if -- if that sorting-out process is in
25 chapter two.

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1 TERRY FULP: It's not in two. It's sorted -- I
2 mean, there's some preliminary materials in one, chapter
3 one, introduction that addresses some of that, albeit maybe
4 not exactly to the detail you -- you propose there.

5 But in chapter four in the Water Delivery section,
6 we do look at the different types of surpluses, the
7 probability of them occurring, and try to make that
8 distinction particularly with regard to the idea of surplus
9 for the Treaty.

10 But again, we'd certainly accept any comment if --
11 if you thought that ought to be even made more clear. But
12 we've attempted to.

13 ROBERT S. LYNCH: Are there in these A1 -- in the
14 substantive alternatives are there off-ramps?

15 TERRY FULP: Off-ramps meaning if it didn't work
16 out there's --

17 ROBERT S. LYNCH: Well, you start -- the nice
18 thing about the annual operating plan is every year you're
19 taking another look at where you are and -- with updated
20 data.

21 You lock into some assumptions in 2008 for a
22 19-year period, you get four or five years down the road
23 this isn't working, what's the mechanism -- do you have to
24 go back through the same process? Is there an off-ramp? Is
25 there a t- -- is there a default position like going back to

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1 the AOP and -- and bagging this whole thing?

2 TERRY FULP: Yeah ...

3 ROBERT S. LYNCH: Is that -- is that cranked into
4 any of these alternatives?

5 TERRY FULP: It's not at this point.

6 A couple things to say there. I think the answer
7 to one of your questions, what would we have to do. Yes, if
8 we wanted to implement other guidelines, we'd have to go
9 back through a similar type of process.

10 I believe we're -- when that'll come out would
11 really be in the development of the guidelines. That would
12 be where that discussion would happen.

13 I'll look at any of my project team to -- to chime
14 in there if you think it's somewhat different.

15 But when we develop those guidelines, that's where
16 we would discuss that; are there off-ramps. If so, what are
17 they, how they work.

18 That allows me to stand on the thing that I've
19 probably forgotten, and that is we plan to publish some
20 draft guidelines in the final EIS so at least you can see
21 what -- what we're thinking before we go -- get all the way
22 to the record of decision.

23 Did that answer that?

24 NAN YODER: We actually --

25 TERRY FULP: I think he had his hand up first.

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1 Sam?

2 SAM SPILLER: Sam Spiller, U.S. Fish and Wildlife
3 Service, Phoenix.

4 Could you discuss further, Terry, in regard to
5 just -- just what the parameters are regarding how Mexico
6 would share? That was mentioned earlier that they -- to use
7 the Basin States Alternative in regard to how they recommend
8 it?

9 TERRY FULP: Yes.

10 SAM SPILLER: Can you define more --

11 TERRY FULP: What it is? You bet.

12 These assumptions, again, are consistent between
13 all the five alternatives. What it basically does is come
14 up with a fixed percentage for each of the entities that
15 would share in the shortages. Now, that's essentially the
16 concept.

17 The way we came up with the numbers, or that this
18 proposal came up with the numbers, is a ratio of the
19 entities' apportioned value to the total delivery
20 apportioned value.

21 Give you an example. Mexico, 1.5 million
22 acre-feet is their allotment, and the total in the Lower
23 Basin States plus Mexico is nine million acre-feet. So in
24 the numerator is 1.5, the denominator is 9, and that equals
25 16.7 percent.

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1 If you substitute Nevada in the numerator, that's
2 a 300,000 over 9 million, that ends up being 3.3 percent.
3 And finally in -- Arizona is assumed to take the rest.

4 It's the -- that's essentially what you were
5 asking, Sam; is that right?

6 SAM SPILLER: (Inaudible response.)

7 TERRY FULP: Yeah. So the Mexico percentage
8 doesn't change no matter how big the shortage gets. It
9 turns out Nevada's percentage doesn't change no matter how
10 large the shortage gets.

11 But Arizona's is a little different, and it's a
12 little complicated, but the idea really is it -- the break
13 point is once all of Arizona's fourth priority has been
14 reduced to zero, there's a shift of the percentages, because
15 California now would come in under these assumptions and
16 start to share somewhat in the shortages.

17 So I know that's a little complicated. It's
18 listed in Appendix G. Is that right? Appendix G if you're
19 interested, in the front part of it, we explain those
20 shortage-sharing assumptions that have been made in more
21 detail. But I hope I addressed your question.

22 NAN YODER: You'll also find it in Chapter 4.3.

23 TERRY FULP: Yeah, probably is there, too, isn't
24 it? Okay.

25 VAL DANOS: Val Danos with AMWUA.

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1 I'm -- I'm a little confused. You spoke -- you
2 answered one of Bob's questions at the end you were talking
3 draft guidelines in the final EIS. I may be a little slow,
4 but wasn't the purpose of this EIS process to evaluate
5 guidelines for operation of the river under low-flow
6 conditions and the operation of the reservoirs so --

7 TERRY FULP: Yeah --

8 VAL DANOS: -- so what new guidelines -- I mean,
9 are we talking about different guidelines here or --

10 TERRY FULP: No. I didn't make it very clear.
11 Let me try again with you.

12 The -- this draft makes these key -- as I
13 mentioned, these key elements, and we're looking at the
14 differences of what the impacts would be if you determine
15 Lake Powell release, for instance, in a certain way. Right?
16 Similarly if you declare shortages in a certain way. That's
17 what we mean, and that's what this is evaluating.

18 Now, when we talk about the actual guidelines,
19 what I meant to say there were things, like Bob mentioned,
20 about off-ramps. Well, the modeling doesn't know anything
21 about that. This draft doesn't go as far as to say, "Hey,
22 what if by 2010 you wanted to do something different?"

23 That would be done when you implement actually the
24 record of decision and say:

25 "Here's how the guidelines will work. Here's

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1 exactly how this prescribed element that we
2 just -- have just mentioned on Powell's release
3 and how that gets determined. Here's how it would
4 exactly work in practice."

5 So it's the same concept; it's just you gotta get
6 it down finally to say, "Here's exactly how it works."

7 Let me give you an example. Maybe that helps that
8 again. I know this is not very straightforward.

9 Lake Mead's operated on a calendar-year basis.
10 And similar if we had dropped it something similar to the
11 way the surplus guidelines works, you're doing your annual
12 operating plan in the fall of the year, ready to go at the
13 start of January.

14 Well, you don't want to wait till January to see
15 where Mead is, because your users need to know what their
16 water deliveries are going to be; right?

17 So you could say in the guidelines, "In August
18 we'll run our midterm operational model, project where Mead
19 will be on January 1st, and that come -- gets compared to
20 those trigger elevations." That's the guidelines.

21 The how it actually works is what we're talking
22 about, those nitty-gritty details that this level of
23 analysis doesn't need to know about and would only make it
24 even more cumbersome. But that's what we mean by the
25 guidelines.

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1 Did that help any, sir?

2 VAL DANOS: Yes.

3 TERRY FULP: Yeah, sorry, it's ... I -- I know
4 that's a bit confusing.

5 Bob.

6 ROBERT S. LYNCH: When you get to the details, are
7 these the kinds of things that are gonna be sorted out in
8 the AOP process? Are we -- I mean, once you've established
9 the shortage criteria, we have surplus criteria, we have
10 interim surplus criteria, all of that affects what we
11 discuss at the end of the operating plan.

12 Should we assume, then, that once this process is
13 set and these criteria are in place that a lot of that
14 dialogue will be occurring in that same fashion?

15 TERRY FULP: Yeah, I think that dialogue will
16 still occur, to -- to answer your straightforward question,
17 but if we -- and again, we haven't written these guidelines
18 yet, so --

19 ROBERT S. LYNCH: Yeah.

20 TERRY FULP: I'm just supposing what they might
21 look like.

22 But much as our domestic surpluses are determined
23 now by this projected January 1st elevation, that's how --
24 what we run and show you in August, and we say, "If
25 Lake Powell is above 1125 or below 1125, it's a normal

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1 condition."

2 Well, a similar type of guideline could be put in
3 place here that said, "Hey, if Lake Mead on January 1st at
4 or below 1075, there will be a shortage of X thousand
5 acre-feet."

6 We'd still have the dialogue, of course, because
7 it's an interactive process, but it would be more
8 prescriptive of applying the methodology that the guidelines
9 might outline.

10 Did that help?

11 ROBERT S. LYNCH: Yeah. I -- yeah, we've got
12 stops --

13 TERRY FULP: Yeah.

14 ROBERT S. LYNCH: -- and we talk about 'em, but
15 the stops would be automatic.

16 TERRY FULP: Yeah. Yeah. Yeah.

17 Yes.

18 GARY PARKER: Gary Parker with the Gila River
19 Indian Irrigation and Drainage District.

20 When you identified the different alternatives and
21 that you're going to after this comment period possibly
22 select parts of any or all of them, are you then going to
23 publish as part of the final EIS the model with those
24 modifications and all of those scenarios that go with that
25 final?

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1 TERRY FULP: Certainly.

2 GARY PARKER: And that's going to be open for
3 public comment?

4 TERRY FULP: It would be open for comment, but
5 most likely we wouldn't have a set-aside comment period.
6 Point is we've got a pretty rapid turnaround there to get a
7 record of decision, and we certainly will take comments all
8 along the way, but particularly during that period of time.

9 NAN YODER: If I could just clarify. Certainly
10 when we notice availability of the final EIS there will be a
11 30-day comment period on that final document as is
12 prescribed for all of the NEPA documents. So that will be
13 available.

14 TERRY FULP: Thank you, Nan.

15 GARY PARKER: Could I ask a follow-up to that?

16 TERRY FULP: You bet. Sure.

17 GARY PARKER: If you have -- if you have that
18 final alternative, the preferred alternative, and you go
19 through that, are you also going to have the policy that
20 goes with it at that time? Because --

21 TERRY FULP: Like the guidelines we were just
22 talking about?

23 GARY PARKER: Right.

24 TERRY FULP: Yes. That's the goal --

25 GARY PARKER: They will be done?

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1 TERRY FULP: -- is we will have draft guidelines
2 published in that final Environmental Impact Statement, yes.

3 GARY PARKER: Okay.

4 TERRY FULP: Very good question. Thank you.

5 Thanks, Nan.

6 Yes.

7 ROBERT S. LYNCH: Yeah, to clarify a little more,
8 you're gonna come out with the final EIS that'll have the
9 criteria -- and those are, shall we say, automatic stops,
10 elevation, certain things happen -- and draft guidelines.

11 How -- what process do you then envision using to
12 finalize the guidelines related to the criteria?

13 TERRY FULP: Well, again, based on the comments we
14 receive and the things we've heard, we would go through the
15 Department and we would finalize those guidelines in
16 anticipation to publish the record of decision, and I think
17 our goal would be we publish the final guidelines in the
18 decision. And the record of decision would essentially be
19 guidelines plus the other associated information that should
20 be disclosed at that time. And again, that's targeted for
21 December.

22 Okay. Any other questions? They were all very
23 good questions.

24 Well, with that, I think we'll --

25 VIKKI DEE BRADSHAW: I have one question. I'm

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1 sorry.

2 TERRY FULP: No, not a problem.

3 VIKKI DEE BRADSHAW: Dee Bradshaw, Imperial
4 Irrigation District.

5 In the context of the Conservation Before Shortage
6 Alternative, since it is willing conservation, I assume that
7 there will be other areas that would be impacted other than
8 just, you know, Metropolitan Service Area and Southern
9 Nevada Water Authority Service Area.

10 How would you handle with that -- I mean, if that
11 is -- some element of that is part of the preferred
12 alternative, that would mean that the impacts would clearly
13 be addressed for maybe air quality or socioeconomics or
14 something of that nature.

15 TERRY FULP: That's a very good question. Because
16 we don't know who may want to participate in such a
17 voluntary program, it's very difficult to analyze impacts
18 today, and so we have I hope made it fairly clear in the
19 draft that we weren't able to do that. What we were looking
20 at are the impacts to the river corridor of this kind of --
21 of mechanism.

22 And what we'd anticipate is whenever in the future
23 willing sellers or leasers of water come forward and say,
24 "Hey, I want to conserve water and put it in Lake Mead,"
25 then whatever analyses we need to do at that time would get

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1 done at that time.

2 And could be a State process more, as you are very
3 familiar with, and it could be very straightforward
4 depending on what the activity is. So we just can't predict
5 them, and so we -- we chose to -- to not try to analyze what
6 we couldn't forecast or even somewhat anticipate.

7 ROBERT S. LYNCH: Is part of the answer to her
8 question that to the extent that you create for short-end
9 purposes a market mechanism is then executed by nonfederal
10 entities, there is no federal action to analyze?

11 TERRY FULP: That's -- could certainly be the
12 case. Again, our goal here is to achieve our environmental
13 compliance for allowing the water to move around in the
14 system, to be put in Mead, taken out of Mead, and
15 corresponding reductions and increases in river flows and
16 any associated impacts of that.

17 And that really is our part in this action, is to
18 allow that to happen. And as Bob said, whatever's
19 appropriately needs to be done with at the time of the
20 activity is proposed, that's what we would have to happen.
21 Could very well be not the feds doing it.

22 Anything to add back there? Okay.

23 I have to look to the environmental compliance
24 folks here to be sure --

25 MITCH HAWS: Terry, Mitch Haws with the Bureau of

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1 Reclamation in the Phoenix area office.

2 I was asked by one of our local partners here:
3 Are you planning to give one of these meetings in
4 California? Or is there a reason why California's not on
5 the fact sheet?

6 TERRY FULP: We are not -- yeah, we are not
7 planning to. We didn't just over -- omit it by mistake.
8 The idea really was that from the perspective of these
9 critical elements and what we know about them -- and again,
10 saying that we don't know much about what a mechanism
11 might -- how it might want to be used, particularly with
12 regard to shortage -- the risk of California of sharing in
13 shortages is fairly -- is fairly low. Pretty low.

14 And again, due to the '68 Basin Project Act that
15 deemed essentially the fourth priority post-1968 water
16 rights in Arizona to be subservient to California
17 4.4 million acre-feet.

18 So given that, we felt that we could touch most
19 everyone that needs to through either this outreach and/or
20 through other meetings. And I think we're gonna be
21 successful doing that. At least we feel like -- for
22 instance, I'll be honest, some of the California agencies
23 have asked us to come out this month, and we -- IID's one,
24 in fact. And so we'll go there and deal with it that way.

25 Great. Any other -- any other questions?

PUBLIC HEARING - 4/4/07

1 Yes.

2 VAL DANOS: What's the nature of these meetings in
3 California? Are they hearings or --

4 TERRY FULP: No, not at all. It's a request from
5 an agency for information, so -- and so we'll -- we'll do
6 that. We try to meet all the requests we get, so ...

7 They are not public hearings. They're just
8 requests for either additional information or some dialogue
9 in terms of explaining what the analysis is.

10 Okay. If that's the case, then we'll turn it back
11 over to you, and ask you if anyone would like to make a
12 public comment, please -- please do so.

13 NAN YODER: Okay. I have one.

14 Was anyone else going to be brave?

15 Okay. Well, then the spotlight is for
16 John Weisheit. And if you would like to get up and give us
17 your comment, we'd appreciate it.

18 JOHN WEISHEIT: My name is John Weisheit. I am
19 the conservation director of Living Rivers. Our base is in
20 Moab, Utah. I'm also a Colorado River Keeper, which has an
21 affiliation of an international organization called the
22 Water Keeper Alliance. As background, we submitted comments
23 as an organization during scoping called the One Dam
24 Solution, and it is a dam-decommissioning alternative to
25 decommission Glen Canyon Dam.

PUBLIC HEARING - 4/4/07

1 The reason is to save water through the loss of
2 evaporation because of its existence, to also reduce
3 salinity in the Colorado River, and also to take care of the
4 environmental problems that are being -- that are occurring
5 in Grand Canyon National Park as the result of the
6 operations of Glen Canyon Dam.

7 This alternative was not -- was rejected in this
8 EIS. There is a -- a ban, congressional rider, against
9 federal funds being used to study -- to decommissioning of
10 Glen Canyon Dam, and that is why it was not considered as an
11 alternative.

12 I did bring some copies of our document. It's
13 outside the door on a chair on the right as you're leaving
14 if you care to look at it. I have extra copies in my
15 backpack, too, in case we run out.

16 These are my comments.

17 Models are only as valuable as the inputs they
18 receive. While the sophistication and effort put into these
19 projections are unprecedented and well-appreciated, the
20 models' inputs, however, fail to provide the public the
21 results necessary from which to make an informed decision as
22 to merits of any of the proposed alternatives.

23 Garbage in, garbage out, as they say, but this
24 garbage is so well masked that the people of the Colorado
25 River Basin are being asked to put the rubber stamp on a

PUBLIC HEARING - 4/4/07

1 Katrina in the making. Those levees in New Orleans did not
2 hold, nor will the assumptions painted on what otherwise is
3 probably a very valuable model.

4 Scientists have been in agreement for decades that
5 the Colorado River flows through the past century were among
6 the wettest in 1200 years. Scientists are also in agreement
7 that the Colorado River Basin in modern times has warmed
8 upwards to two degrees during this period, and the trend is
9 expected to continue, compromising streamflows upwards of 20
10 percent in the next 50 years.

11 We're now in the longest drought in recorded
12 history. Things are changing all over the Basin, but not at
13 the Bureau of Reclamation.

14 The results produced by their inflated inputs are
15 based on historical streamflows that, while useful, in and
16 of themselves must not alone be used to gauge future runoff.

17 Failing to account for a more long-term historical
18 view of streamflow coupled with the climate change we are
19 already experiencing is tremendously misleading to the
20 public when developing shortage strategies.

21 Even under Reclamation's inflated scenario, this
22 system is headed for an imbalance of water use, namely an
23 oversupply of 400,000 acre-feet annually in the next 50
24 years. Corrected for a more accurate presentation --
25 representation of historical streamflow, this increases to

PUBLIC HEARING - 4/4/07

1 1.1 million-acre-feet.

2 But most importantly, we must begin to accept the
3 reality of climate change. Anyone can notice how the
4 reservoirs are dropping. A ten percent reduction on
5 long-term flow estimates show an annual deficit right now of
6 1.1 million acre-feet rising to 2.8 million acre-feet by
7 2060.

8 Adjust this to 20 percent, as an increasing number
9 of scientists are recommending, and we're looking at a
10 2.6 million -- million acre-feet deficit now, and nearly
11 4 million acre-feet in 50 years.

12 We're at ground zero tonight. Phoenix, Chandler,
13 Tucson are not going to be protected by token changes in
14 reservoir operations or even its ground-water banking
15 Arizona is first in line for cuts, and there is no plan or
16 how -- for how the state will survive if the rosy inputs put
17 into this model evaporate away as Lakes Powell and Mead drop
18 lower and lower.

19 The public is quite fortunate that the National
20 Research Council has completed its recent Colorado River
21 Report at this time. It reiterates the warnings that have
22 yet found their way into the assumptions used by this model.
23 We certainly hope these changes in the final EIS will
24 present a more realistic view of what the future may hold.

25 And the public would also benefit from a more

PUBLIC HEARING - 4/4/07

1 comprehensive presentation of what the real benefits are to
2 these minimal dam operational changes it is being asked to
3 support.

4 Chart 4.3, dash, 26 and 27 illustrate that a
5 significant amount of water savings, at least in terms of
6 increased levels for Lake Mead, occur not because of new
7 operating plans that are the focus of these documents, but
8 the results of anticipated but as yet mostly undetermined
9 water-conservation activities.

10 It's already clear in looking at the plotted data
11 represented from the 50th percentile the net volume of
12 stored water in Lake Powell and Mead is greater under the No
13 Action Alternative than what the Basin States -- States hope
14 to implement.

15 Reclamation must present a comparable analysis of
16 strictly the reservoir-operation component of the Basin
17 States Alternative, not volumes of studies and charts based
18 on undefined activities that may be exaggerating these
19 limited benefits.

20 There is no question that the objective of this
21 DEIS is critical or that valuable work has not gone into
22 developing the model, but the public is anxiously awaiting
23 some assurances that the water managers they rely on will
24 develop a real strategy to guide us through what looks to be
25 a very parched future ahead.

PUBLIC HEARING - 4/4/07

1 Unfortunately, Reclamation is still hoping history
2 repeats itself and high flows will bail us out as demand
3 continues to grow and temperatures continue to rise. But
4 we're already at the end of what the river has historically
5 provided.

6 There's no water left, and climate change is
7 taking what their -- what's there back. It's time for
8 Reclamation to admit this and get on with the real task
9 ahead: Developing a solution for managing the system headed
10 for failure.

11 Thank you.

12 NAN YODER: John, thank you for your comment.

13 Is there anyone else? No?

14 Okay. All right. So we'll remind you one more
15 time that we're in our public-comment period. It closes
16 April 30th. And we are more than welcome to hear from you
17 tonight or also from here forward to fax or e-mail. And
18 again, your input is valuable to our process. Thank you
19 very much.

20 (Whereupon the presentation was concluded at
21 7:30 p.m.)

22 (Whereupon the public-comment session at this
23 public meeting was concluded at 9:00 p.m.)

24

25

PUBLIC HEARING - 4/4/07

1 STATE OF ARIZONA)
2) ss.
3 COUNTY OF MARICOPA)

4 BE IT KNOWN that the foregoing Public Meeting was
5 taken before me, RABIN' MONROE, RMR, CRR, a Certified
6 Reporter, No. 50653, in and for the County of Maricopa,
7 State of Arizona; that the proceedings were taken down by me
8 in machine shorthand and thereafter transcribed by
9 computer-aided transcription under my supervision and
10 direction; that the foregoing pages, numbered from 1 to 24,
11 inclusive, constitute a true and accurate excerpt of all the
12 proceedings had upon the taking of said public meeting, all
13 done to the best of my skill and ability.

14 I FURTHER CERTIFY that I am in no way related to
15 any of the parties hereto, nor am I in any way interested in
16 the outcome hereof.

17 DATED in Phoenix, Arizona, this 20th day of April,
18 2007.

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RABIN' MONROE, RMR, CRR
CR #50653

Speaker Request Form

Please write clearly so that we do not misspell any personal details. Give the completed card to a project representative prior to the meeting's comment session.

4/4/07

Date

JOHN WEISHEIT (WHY-SIGHT)

Name*

PO BOX 466 MOAB UT 84532

Address*

Please check this box if you'd like your address withheld from publication

LIVING RIVERS

Organization

435-259-1063

Telephone

**Mandatory Information*

From: Jerry & Annette Prioste [japrioste@cox.net]

Sent: Tuesday, March 13, 2007 11:39 AM

To: strategies@lc.usbr.gov

Subject: Colorado River drought plan

The Scottsdale, Arizona, City Government continues its profligate disregard for water resources by ignoring poorly designed, inappropriate, and mismanaged landscaping, which allows water to pour into our streets. I can only imagine the amount of water that has been wasted over the years and how so many other countries and people could be maintained with just our irresponsibly wasted water.

I fear for our lowered, beautiful, Colorado River systems.

Thank you for your environmental effort.

Annette Prioste

Scottsdale, Arizona 85254

[Japrioste@cox.net](mailto:japrioste@cox.net)

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April 30, 2007

Via Facsimile (702) 293-8156

Regional Director
 Bureau of Reclamation
 Lower Colorado Regional Office
 P.O. Box 61470
 Boulder City, Nevada 89006-1470

Re: Comments of Quechan Indian Tribe on Draft EIS re Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, **BCOO-1000**

Dear Regional Director:

On behalf of the Quechan Indian Tribe, we submit the following comments on the Draft Environmental Impact Statement regarding the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, BCOO-1000.

The Quechan Tribe's Fort Yuma Reservation was established at its current site in 1884, which gave the Tribe, under federal law, reserved rights to water in the Colorado River with a priority date of 1884. *See Arizona v. California I*, 376 U.S. 344 (1964); *Arizona v. California II*, 460 U.S. 605 (1983); *Arizona v. California* (consolidated decree), 126 S. Ct. 1543 (2006). Pursuant to the 2006 Supreme Court decree, the Tribe has diversion rights of 71,616 acre-feet per year in California and diversion rights of 6,350 acre-feet per year in Arizona. These rights have a priority date of 1884.

The DEIS correctly states that water deliveries to the Fort Yuma Indian Reservation may not be restricted, due to the senior priority of the Tribe's reserved water rights. *See, e.g., DEIS* at 4-213 ("water deliveries to the . . . Fort Yuma Indian Reservation will not be affected by the proposed federal action due to their early priority dates"). It appears that none of the alternatives analyzed by the Bureau would have a detrimental effect on the exercise or use of the Tribe's reserved water rights. However, as trustee to the Tribe, the Bureau of Reclamation has a continuing obligation to ensure that the Bureau's implementation of shortage guidelines, in practice, has no detrimental impact on the Tribe's water rights or the Tribe's future exercise and use of its water rights. The Tribe requests that the Bureau ensure that shortage guidelines, if

Regional Director, Lower Colorado Region
April 30, 2007
Page 2

adopted, are implemented in a manner consistent with the Tribe's water rights and the Bureau's trust obligation to the Tribe.

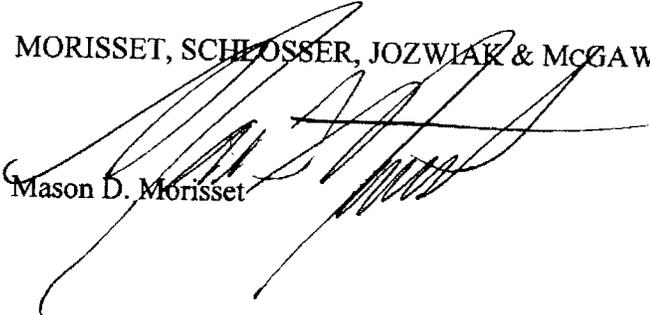
Although operations under the interim shortage guidelines will not affect water deliveries to the Tribe, variations in flow releases from upstream reservoirs could have an impact on habitat on and around the Fort Yuma Indian Reservation. The current DEIS contains relatively little discussion of potential impacts to habitat between Imperial Dam and the NIB, an area that includes habitat on and around the reservation.

The Tribe requests that the Bureau give further consideration to the following issues. First, to what extent will the variation in *timing* of flows have an effect on the vegetation resources that are adjacent to the Colorado River on and nearby the Fort Yuma Indian Reservation? For example, implementation of shortage guidelines may result in variations in the timing and duration of high or low flow events in the area between Imperial Dam and the NIB. Specifically, will there be any variation in the timing of flood flows that could negatively impact the Yuma East Wetlands located along the Fort Yuma Indian Reservation that are currently being restored by the Tribe and other agencies? The health of the riparian wetland areas depends, in large part, on the continued existence of high flow events. Second, to what extent will the variation in flows, both in terms of timing and quantity, impact groundwater on and nearby the Fort Yuma Indian Reservation? There does not appear to be any significant evaluation of potential impacts to groundwater on the reservation in the current DEIS.

The Tribe appreciates the opportunity to comment on the Bureau's DEIS. The Tribe requests that the Bureau continue to keep the Tribe directly informed as the proposed development of shortage guidelines moves forward.

Sincerely yours,

MORISSET, SCHLOSSER, JOZWIAK & MCGAW



Mason D. Morisset

cc: Mike Jackson, Sr., President

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April 30, 2007

FACSIMILE TRANSMITTAL SHEET

TO/FAX NO: Regional Director, Bureau of Reclamation
Lower Colorado Regional Office/(702) 293-8156

FROM: Mason D. Morisset
Morisset, Schlosser, Jozwiak & McGaw

REGARDING: Comments of Quechan Indian Tribe on Draft EIS re Colorado River
Interim Guidelines for Lower Basin Shortages and Coordinated
Operations for Lake Powell and Lake Mead, **BCOO-1000**

NO. OF PAGES: 3 (including this sheet) CLI/MAT NO: 0267/09751

PLEASE DELIVER TO ADDRESSEE AS SOON AS POSSIBLE. THANK YOU.

T:\WPDOCS\026709751\CORRESP\2007\BOR Re Comments on Shortage EIS.FAX.04302007.doc
lk:4/30/07

IMPORTANT NOTICE: All information contained in this facsimile transmission is attorney-client privileged and confidential, intended only for the use of the individual addressed above. If you have received this transmission in error, please immediately notify us by telephone, collect, and return the original and all copies of the transmission to us at the above address via the U.S. Postal Service (we will reimburse you for first class postage). Thank you.

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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

IN RE:

PUBLIC HEARING ON THE DRAFT EIS,)
COLORADO RIVER INTERIM)
GUIDELINES FOR LOWER BASIN SHORTAGES)
AND COORDINATED OPERATIONS FOR)
LAKE POWELL AND LAKE MEAD.)

Held at the Hilton Hotel
Salt Lake City, Utah
April 5, 2007, 6:00 PM

1 APPEARANCES:
2
3 BUREAU OF RECLAMATION STAFF PARTICIPATING:
4
5 AMBER CUNNINGHAM
6 NAN YODER
7 TERRANCE FULP
8
9 Comments and Questions by:
10
11 David Kanzer, Colorado River Water Conservation District
12 Tony Willardson, Western States Water Council
13 V.C. Danos, AMWUA
14 Janice Houston, University of Utah
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1 SALT LAKE CITY, UTAH, APRIL 5, 2007, 6:00 PM
2 (Opening comments by Nan Yoder and Presentation of
3 Project by Terrance Fulp.)
4 MR. KANZER: This might be too specific, but the
5 Drop 2 reservoir, is that an ICS conservation measure?
6 You guys are assuming that it gets built?
7 MR. FULP: That's a good question and it is fairly
8 detailed, I don't mind at all you asking it.
9 MR. KANZER: I'm sorry, my name is David Kanzer,
10 Colorado River Water Conservation District.
11 MR. FULP: Great. All five alternatives,
12 including no action, assume the Drop 2 reservoir is
13 constructed, okay? And so, under no action or other
14 alternatives that have no mechanism, that water that's
15 conserved is just treated as system water. Okay? It
16 just goes into Lake Mead and stays and is available for
17 future delivery as any system water is. Okay? Does that
18 make sense?
19 And then under -- for this particular proposal,
20 the proposal was Nevada would pay for that reservoir and
21 get an equivalent amount of water back and we've modeled
22 that in this mechanism essentially. So, up until, oh,
23 remind me, 250,000 acre feet? 300,000 acre feet was
24 assumed, based on some assumption of the price of the
25 reservoir, would be assumed that Nevada could draw on of

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1 the conserved water due to Drop 2. And it's spread out
2 through, I don't know, 10, 12 years, is that about
3 right?
4 MR. KANZER: And that's only in one alternative?
5 MR. FULP: It's actually in three alternatives and
6 we'll get to that. There's three other alternatives
7 that have this mechanism. They all assumed that same
8 participation by Nevada, okay? Did that answer it,
9 Dave?
10 MR. KANZER: Yes.
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1 (Presentation continues.)

2 MR. KANZER: Dave Kanzer, Colorado River Water
3 Conservation District. The CSD service area has got
4 that break in it. Is that the Salt River -- what's the
5 link there?

6 MR. FULP: Well, this is back here, these are some
7 reservations out here. I will not remember who all is
8 sitting here, but we can find out for you.

9 MR. KANZER: Do they get tap water through the
10 Indian settlement?

11 MR. FULP: Right.

12 MR. WILLARDSON: Tony Willardson with Western
13 States Water Council. Can you say if there had been any
14 discussions on the definition of the ICS water, and how
15 that would be monitored? What actions would create ICS
16 water?

17 MR. FULP: Oh, sure, there's been discussions.
18 Absolutely. The states themselves, in their proposal in
19 February that they sent to us that we published in our
20 scoping, proposed some things that they thought were
21 reasonable in terms of creating conserved water.
22 Certainly internally, Interior and Reclamation, we are
23 having discussions as we move forward in the process to
24 figure out how the guidelines might end up being written
25 and what they say with regard to that.

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1 MR. WILLARDSON: My understanding is extraordinary
2 conservation methods have to be verifiable.
3 MR. FULP: Verifiability is an important part in
4 our opinion. We usually use the term it needs to be wet
5 water. It needs to really create a benefit and be water
6 that's truly stored and ends up in Mead, you know. But
7 there's certainly -- it's not been settled on completely
8 by any means.
9 MR. KANZER: But the Drop 2 is one?
10 MR. FULP: The Drop 2 system efficiency, the
11 state's termed that, but yes, Drop 2 certainly would be
12 one, too.
13 MR. KANZER: Most obvious and the biggest, right?
14 MR. FULP: Yes. Okay, any other questions?
15 MR. LIND: Gordan Lind, Sierra Club. Which is the
16 environmentally preferred alternative?
17 MR. FULP: We have not identified that either.
18 MR. LIND: In the draft, you will identify one in
19 the final?
20 MR. FULP: We will. Yes, we will. I looked at my
21 NEPA person and she said yes, she absolutely will.
22 Thank you Nan.
23 MR. DANOS: Val Danos of AMWUA. I have one
24 question. What happens between September of 2007 and
25 December of 2007? I mean, it would seem to me that the

1 Record of Decision presumably would be consistent with
2 the final alternative in the final EIS.
3 MR. FULP: That's a good question. We will have
4 the public comment period, as I mentioned, of 30 days.
5 We've built -- this is a little bit of our float that's
6 left, a little bit, not much. There's a little. But
7 then also we'd have to develop the Record of Decision,
8 write it and work through all the details of how the
9 guidelines would work so that we can include those in
10 the Record of Decision. So, we won't, I'm sure, be
11 twiddling our thumbs during that period.
12 MR. DANOS: It's not like you're gonna spend three
13 weeks with spell check.
14 MR. FULP: Not at all. Dave?
15 MR. KANZER: Dave Kanzer, Colorado River District.
16 It's more of a comment. I mean, the way that we're --
17 we do the, what do you call it, the management group,
18 we're always looking one year ahead, right? Now, this
19 year we're doing 2008. So, in fact, we wouldn't
20 implement these guidelines until 2009, correct? And so,
21 are we incorporating any of this stuff into this year's
22 process and do you need to change one of your slides to
23 talk about the guidelines that really start in 2009?
24 MR. FULP: That's a really good question and I
25 think we don't have a firm answer. It's not been

1 obviously decided. But one approach might be that
2 obviously we would develop our 2008 operating plan based
3 on the guidance we have today, and that is not a
4 decision yet. So we know what the guidance is, we have
5 no storage criteria, we know what Powell's release, how
6 it would be determined, right? There would be no
7 storage and delivery mechanism, etcetera, right? One
8 possibility might be, if we're successful and we
9 implement a Record of Decision, as you well know Dave,
10 you've been through this many times, there is a mid year
11 review option in the AOP and we might, in fact if we
12 have guidelines, sit down with the work group and say
13 hey, we think it's appropriate to do review and see if
14 we really need to change this operation based on the
15 current knowledge.

16 And so that might be a possible way to go about
17 it. So I guess to answer your question, no, we weren't
18 willing to put 2009 down on the slide yet. We want to
19 go ahead and see the process through and let us see. If
20 we got into '08 and we have these guidelines in place
21 and it looks like they ought to be applied, it seems to
22 us we ought to apply them. That's one way we could do
23 that.

24 MR. KANZER: So there may be discussion in this
25 year's process which starts next month?

1 MR. FULP: June actually. I can almost guarantee
2 there will be discussion. Yes.
3 MS. HOUSTON: Janice Houston, University of Utah.
4 Just a quick question about water delivery. I see that
5 on the slide. Was there any consideration taken into
6 the modeling of water delivery with the potential
7 project that the State of Utah is kicking around about
8 building of the pipeline from Lake Powell to St. George?
9 MR. FULP: There was not any assumption made with
10 regard to that. Now, what we would point out that we
11 did take the, you know, essentially the depletion
12 schedules that are in the model, and I think you're
13 probably familiar with that, that the Upper Colorado
14 River Commission has supplied. Those are constant
15 through the alternatives and no additional assumptions
16 were made.
17 Anyone else?
18 (BEGINNING OF COMMENT PORTION)
19 MR. WECHSLER: I'm Jim Wechsler, I'm with the
20 Sierra Club Southwest Waters Committee, which is a
21 Regional committee, and we were one of the environmental
22 groups that submitted the conservation before shortage
23 proposal which was originally submitted as a
24 conservation before shortage and then later adapted to
25 the basin states. And I haven't read the DEIS yet. I

1 have been practicing with the Manhattan telephone book,
2 but I haven't read it yet. And so these comments are
3 all taken from somebody else who glanced at Volume I and
4 this managed to arrive in my E-mail this morning and I
5 think it needs some clarification.

6 It's about how the conservation before shortage is
7 represented in this DEIS. One thing that he noticed,
8 and other people have said, is that the term voluntary
9 shortage is quite common. We actually think that -- we
10 didn't think anybody needs practice, and so we think
11 voluntary conservation would probably be a better way to
12 say it. Or as it said in one place, voluntary
13 compensated reductions in water use. As Terry pointed
14 out, compensation is a major feature. And another
15 comment is that the ICS intentionally created surplus
16 under the conservation before shortage proposal, can be
17 assigned to other entities, and they aren't specified.
18 And the other entities that we would -- was in our mind
19 and we thought in our proposal were U.S. agencies, non
20 governmental organizations, Mexican agencies and water
21 users. So for unassigned, read that.

22 And I'm not sure this is correct. But he said
23 that the way he read it was that the federal funding for
24 ICS appeared to be limited to flows that were bypassed
25 to the wetlands of Mexico to the Senega to Santa Clara.

1 If it gives that impression, it's wrong, and I think
2 everybody agrees that would be wrong.
3 And finally, that the ICS has talked about,
4 relative to evaluation before shortage, suggests that
5 all of it is assigned to Mexico. One of the things that
6 the conservation before shortage proposal does is it's
7 saying why not add Mexico to the mix, not just the basin
8 states can create these, through extraordinary
9 conservation events, a intentionally created surplus,
10 but Mexico could as well. The reason for doing that is
11 one, it adds flexibility and two, it does go directly to
12 something we're interested in, which is the Delta area
13 New Mexico. And to give an example of how you could add
14 Mexico into that mix is, for example, southern Nevada is
15 looking for more water. Southern Nevada could fund a
16 project in Mexico that would conserve water. Some of
17 that water would presumably go to Mexico, and Mexico,
18 we've certainly had talks with them about the
19 possibility of using some of their, what amounts to
20 additional water. I mean, this could be lots of things.
21 But for example, taking the most, perhaps most
22 significant asset would be for southern Nevada to say
23 construct a desalinization plant for agricultural runoff
24 in Mexico, give some portion of that water back to
25 Mexico.

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1 We would only be happy if we could convince Mexico
2 in putting some of that to environmental uses in Mexico.
3 The other portion would be stored in Lake Mead for
4 southern Nevada's use. So, that that's a way for
5 southern Nevada to gain more water out of the total
6 system. That's one concept there, and that's why we
7 added or suggested adding Mexico to the mix.
8 And those are just things I wanted to point out
9 when you're reading this. Thanks.
10 MS. YODER: Thanks Jim.
11 MR. KANZER: I noticed on the list of areas where
12 hard copies are available, none in western Colorado?
13 I'm wondering whether the western area office could
14 receive a copy?
15 MR. FULP: Absolutely.
16 MR. KANZER: Is this the full list, or what do you
17 have to do to -- or maybe --
18 MR. FULP: We'll make sure they have it, we'll make
19 sure they get a hard copy right away, that's an
20 oversight.
21 (End of questions and comment session.)
22
23
24
25

1 STATE OF UTAH)
2
3 COUNTY OF SALT LAKE)
4

5
6 I, Linda J. Smurthwaite, Certified Shorthand
7 Reporter, Registered Professional Reporter, and notary
8 public within and for the county of Salt Lake, State of
9 Utah do hereby certify:

10 That the foregoing proceedings were taken by me at
11 the time and place set forth herein, and was taken down
12 by me in shorthand and thereafter transcribed into
13 typewriting under my direction and supervision.

14 That the foregoing pages contain a true and
15 correct transcription of my said shorthand notes so
16 taken.

17 In Witness Whereof, I have subscribed my name this
18 7th day of April, 2007.
19
20

21 LINDA J. SMURTHWAITE
22 CERTIFIED SHORTHAND REPORTER
23
24
25

Speaker Request Form

Please write clearly so that we do not misspell any personal details. Give the completed card to a project representative prior to the meeting's comment session.

4/5/07
Date

JIM WECHSLER
Name*

Address* *Please check this box if you'd like your address withheld from publication*

2975 EMERSON AVE.
SALT LAKE CITY, UT 84108
Sierra Club Southwest Waters Committee
Organization

(801) 583-2090
Telephone

**Mandatory Information*

From: Brenda Samide [hi_from_brenda@hotmail.com]
Sent: Friday, April 06, 2007 12:05 PM
To: strategies@lc.usbr.gov
Subject: Comments for Operations at Lake Powell & Lake Mead under Low Reservoir Conditions

Dear Mr. Johnson and Mr. Gold:

Lake Powell and Lake Mead lose 17 percent of the water that flows into them through evaporation. Vacant space in underground aquifers near existing Colorado River water recharge facilities could store more water than these two reservoirs combined. Upwards of 810,000 acre-feet of water annually could be saved by eliminating Lake Powell and operating Lake Mead principally for distribution to groundwater recharge facilities.

After more than 40 years of operation, it was not until the fall of 2004 that Lake Powell's water storage actually augmented downstream water use. And with the impacts of climate change and rising water consumption, it is unlikely that there will be sufficient surplus water to fill Lake Powell again. Even should surplus water accumulate, Lake Mead alone could provide sufficient storage.

Between Lake Powell and Lake Mead lies Grand Canyon National Park. The operation of both these reservoirs has impacted the Canyon, but Glen Canyon Dam at Lake Powell has been far more devastating. Since the dam's completion four of eight native fish have gone extinct and the dam has trapped the sediment necessary to maintain habitat and beaches for wildlife and recreation, as well as the stabilization of archeological sites.

Sediment is a major unresolved problem threatening the long-term operations of Lake Powell and Lake Mead. Ultimately, sediment must be removed to ensure public safety. Removing sediment from Lake Mead downstream, rather than Lake Powell upstream is the most technically feasible, least costly and environmentally advantageous approach.

The Colorado River Compact of 1922, which largely governs the operations of Lake Powell for Lake Mead, cannot meet its intended purpose of equitably sharing Colorado River water between the Upper and Lower Basin states. With River flows expected to decline 18 percent by 2040, this inequity will worsen, furthering the need for Compact amendments while highlighting the benefits of eliminating Lake Powell to fulfill the Compact's primary objective.

Brenda Samide
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Howard Beach, NY 11414

THE SPARKS LAW FIRM, P. C.

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4/30/07
4/30 8:00/10:00 1003
email to stratg@aet
CLASSIFICATION
REF ID
DATE
BY
REMARKS

April 27, 2007

Via U.S. Mail Certified - Return Receipt Requested
7006 0810 0000 6725 0822

BUREAU OF RECLAMATION
ATTN: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Re: Comments on the DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead - SAN CARLOS APACHE TRIBE

Dear Regional Director:

This Firm serves as Special Legal Counsel to the San Carlos Apache Tribe ("Tribe") and submits the following comments on the *DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* ("DEIS"). The Tribe previously submitted written comments to the Bureau of Reclamation ("Reclamation") on August 31, 2005, and at meetings during scoping for the preparation of the DEIS. Those comments, including attachments, are incorporated here by reference.

The San Carlos Apache Tribe is located in east-central Arizona on the San Carlos Apache Reservation ("Reservation"). The Reservation is approximately 2 million acres, is largely arid, and still does not have an adequate water supply to serve the Reservation, though it is located along the Black River, Salt River and Gila River, to name a few.

Pursuant to the San Carlos Apache Tribe Water Rights Settlement Act of 1992, 106 Stat. 4740 ("Settlement Act"), the Tribe settled a portion of its water rights claims. Under the Settlement Act, the settling parties, including the United States, entered into the San Carlos Apache Tribe Water Rights Settlement Agreement, dated March 30, 1999, as amended ("Settlement Agreement"). The Settlement

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Act and Settlement Agreement confirm certain water rights for the Tribe, including, *inter alia*, rights to 64,145 acre-feet of Central Arizona Project (“CAP”) water. *See* Settlement Act at 106 Stat. 4740, 4742-4747 and Settlement Agreement at Sections 9-12.

The Tribe has a Central Arizona Project Indian Water Delivery Contract Between the United States and the San Carlos Apache Tribe dated December 11, 1980 (“CAP Contract”), a copy of which was previously provided in the Tribe’s letter of August 31, 2005. This CAP Contract originally allocated 12,700 acre-feet of CAP water to the Tribe. The Tribe’s CAP Contract was subsequently amended to include the additional 51,445 acre-feet of CAP water allocated to the Tribe under the Settlement Act. The Tribe agreed to settle a portion of its water rights claims in valuable consideration and return for, *inter alia*, this additional allocation of CAP water and CAP construction funds to pay for the exchange and delivery systems to enable the Tribe to receive and use its CAP entitlement on the Reservation. The allocation of CAP water to the Tribe pursuant to the Settlement Act and Settlement Agreement are trust assets of the Tribe which the Secretary of Interior has a specific trust responsibility to manage and protect. *See* 512 DM 2.2 (Dec. 1995); *see also*, Secretarial Order 3215, April 28, 2000.

River management strategies or decisions which would increase the frequency of shortages or the participation of others in the shortage pools, or reduce the long-term reliability of the Tribe’s CAP water by declarations of a “shortage,” and other schemes which manipulate “credits”, storage rights, and exchanges must be avoided. Several of the alternatives described in the DEIS present shortage sharing scenarios and “conservation” schemes that will substantially reduce the reliability of the Tribe’s CAP water supply and will materially injure the right of the Tribe to receive this water supply under the 1992 Settlement Act and Agreement.

Section 3.21 of the Tribe’s CAP Contract defines a “**Time of Shortage**” as “**a calendar year for which the Secretary determines that a shortage exists pursuant to Section 301(b) of the Basin**

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Project Act, such that there is not sufficient Project Water in that year to supply up to a limit of 309,828 acre feet of water for Indian uses, and up to a limit of 510,000 acre feet of water for non-Indian Municipal and Industrial uses.” Under the Tribe’s CAP Contract, deliveries of Project Water to the Tribe in Times of Shortage may be reduced or terminated in accordance with Section 4.9 of the Tribe’s CAP Contract.

It is paramount that the Secretary of Interior (“Secretary”) reject the proposed management strategies for Lake Powell and Lake Mead that would threaten the security or breach the Tribe’s CAP Contract or breach the Secretary’s trust responsibility to properly manage and protect the Tribe’s CAP water as an Indian Trust Asset.

The Tribe has always understood the terms of the CAP Contract relating to shortage to mean that delivery of CAP water depends upon the physical situation of the Colorado River and not upon a scheme of management in which some are benefitted while others are not. The Secretary owes the Tribe a trust duty to refrain from implementing management strategies which interfere with the Tribe’s contractual rights and expectation of delivery of CAP water and funding for construction and the payment of OM&R from the power generation revenues and Lower Colorado River Basin Development Fund under its CAP Contract and the 1992 Settlement Act and Agreement.

The following is a list of the Tribe’s primary objections and concerns regarding the DEIS:

1. The DEIS Does Not Discuss How Shortages of the Natural Flow of the Colorado River Will Be Shared from Year to Year Between the Upper Basin and Lower Basin States

The DEIS provides no discussion as to how shortages in the annual natural flow of the Colorado River which is not adequate to meet the 15 m.a.f. of apportionments to the Upper and Lower Basin States will be imposed as between the Upper Basin and Lower Basin. The DEIS must first discuss how

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shortages would be borne between the Upper Basin and Lower Basin, before discussing the allocation of water that is stored in the Colorado River reservoirs. The Secretary must first look to the annual natural flow of the River to provide the water supply that is to be apportioned.

Thereafter, the Secretary may look to the water which is stored in the reservoirs in the Lower Basin to provide the supplemental supply to meet the apportionment entitlements of contractors in the Lower Basin States.

2. The DEIS Cannot Lawfully Place Precedence Upon the Nevada Intake at 1050' Elevation Over the Requirements that the Tribes Receive Their Entitlements from the Colorado River to Provide for Their Permanent Tribal Homelands

The DEIS should not place precedence and limit considerations regarding the mark at which shortages will be declared based upon the location of the State of Nevada's intake at the 1050' elevation in Lake Mead. While Nevada may deepen its intake facilities into Lake Mead to mitigate impacts when a shortage is declared on the River, the Tribes have very few, if any, alternatives to enable them to obtain access to Colorado River water or replacement water supplies to provide for their Permanent Tribal Homelands. The DEIS should consider alternatives for shortage based upon the Secretary's obligation to protect and make available the Colorado River water supply to the Tribes, and to the long term reliability of the water supply for all contractors with rights to the River. The man-made intake facilities at Lake Mead for Nevada may be readily altered to correspond with the possibility of shortage, and thus, should be of little or no concern with regard to the management of the River, as opposed to those who have no other options.

The Law of the River does not allow the Lower Basin water supply to be managed primarily to serve one State or interest over another. The sole beneficiary of the Lake Mead scenario is Nevada, to the detriment of others, including the CAP Tribes. The alternatives must be adjusted to provide scenarios with equal consideration of the importance of the delivery of CAP water to the Tribe.

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3. The DEIS Erroneously Assumes that the Tribe is a Subcontractor of the Central Arizona Water Conservation District

The DEIS erroneously assumes and conveys that the Tribe is a subcontractor of CAP water under the Central Arizona Water Conservation District (“CAWCD”), a political arm of the State of Arizona. *See* Appendix E at E-1, showing the CAWCD as the entitlement holder for all CAP water. On the contrary, the Tribe has a **direct** contract with the Secretary of Interior for the delivery of its CAP water, and the United States has a **direct** obligation to deliver this water pursuant to the Tribe’s contract. *See* Tribe’s CAP Contract. This misstatement should be corrected throughout the DEIS.

Since the Tribe is a direct contractor with the Secretary, it must be treated on a co-equal level with that of CAWCD and other contractors in other states with direct contracts with the Secretary to receive the waters of the Colorado River. CAWCD also has a direct contract with the Secretary for the delivery of the non-Indian portion of CAP water and an obligation to repay the cost of the non-Indian portion of the CAP project to the United States.

The Tribe’s water right to CAP water is a portion of Arizona’s equitable apportionment under *Arizona v. California* that must be directly protected by the Secretary as an Indian Trust Asset for the Tribe. The State of Arizona should have an interest in protecting the Tribe’s CAP water supply. However, the State’s conduct in this matter shows that its sole interest and effort is focused upon committing the Tribe’s CAP water supply to non-Indian use, preventing the Tribe from ever using the “wet” water to which the Tribe has a right under its CAP Contract, as well as the 1992 Settlement Act and Agreement. Its conduct also indicates that the States seeks to take and keep the financial benefits from the CAP water to which the Tribe is entitled, which is presently diverted and unlawfully “converted” to use by the State and other non-Indian interests.

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4. Use of Reservoirs to Store and Deliver “Conserved” Colorado River System and Non-System Water

The DEIS, at ES-2, lists one of the purposes of the proposed federal actions as to “[a]llow for the storage and delivery, pursuant to applicable federal law, of conserved Colorado River system and non-system water in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions.” While this purpose appears to be reasonable and foresightful, the method of implementing this purpose, as proposed in certain of the DEIS alternatives, will result in a wholesale taking of the Tribe’s CAP water, and allow the Tribe’s water to be committed to use by others. This is a violation of the Law of the River and of the Tribe’s CAP water rights which are Indian Trust Assets that must be protected by the Secretary.

“The States [in the Basin States Alternative] propose that the Secretary develop a policy and accounting procedure concerning augmentation, extraordinary conservation, and system efficiency projects, including specific extraordinary conservation projects, tributary conservation projects, introduction of non-Colorado River system water, system efficiency improvements and exchange of non-Colorado River System water. The accounting and recovery process would be referred to as ‘Intentionally Created Surplus’ consistent with the concept that the States will take actions to augment storage of water in the Lower Colorado River Basin. The water would be distributed pursuant to Section II(B)(2) of the Decree and forbearance agreements between the States. The ICS credits may not be created or released without such forbearance agreements.” (Appendix at J-11).

However, substantially all, if not all, of these “policy and accounting procedures” are based on a fiction. All of the Colorado River water, natural flow, storage, and surpluses are committed by contracts with the Secretary and the Treaty with the Republic of Mexico. There are no unallocated or uncommitted amounts of Colorado River water possible, including the fictional “Intentionally Created

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Surplus.” The fictional “Intentionally Created Surplus” is actually an attempt to convert the water that is committed to some other use to another entity.

Due to its position, the State of Arizona has a particular interest in “conservation” methods for the Colorado River that would preclude the Arizona Tribes from participation. Once the same Colorado River water is labeled “conserved” by a particular party, the party (such as the State of Arizona) will preclude the Tribe from participating in the benefits of the “conserved” Colorado River water.

The use of the “conserved” water that will be stored in the reservoirs and claimed exclusively by the State of Arizona (which thereby excludes Arizona Indian Tribe access) will reduce and manipulate the amount of water from the Colorado River and its storage that could be used by the Tribe from year to year to fulfill their CAP water orders. This manipulation of the Colorado River water source to preclude its lawful use by the Tribe is a violation of the Law of the River and a violation of the Tribe’s 1992 Settlement Act and Agreement and CAP Contract.

Furthermore, the States cannot enter into forbearance agreements or shortage sharing agreements amongst themselves where the rights of Arizona Tribes to their share of Arizona’s equitable apportionment to the Colorado River would be manipulated by the States. *See e.g.* Appendix J-10 (“Arizona and Nevada will share shortages based on a shortage sharing agreement. In the event that no agreement has been reached, Arizona and Nevada will share shortages in accordance with the 1968 Colorado River Basin Project Act, the Decree, other existing law as applicable, and the Interstate Banking Agreement between Arizona and Nevada parties.”). The participation of the Arizona Tribes in the forbearance agreements or any other agreements between Arizona and other States, as co-equal water users of Arizona’s equitable apportionment, is required by the Law of the River, and by the direct contracts of the Tribes with the Secretary of Interior.

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The proposed alternatives must be revised so that any “conservation” regime used to reduce the potential conditions which may cause or enable the Secretary to make declarations of shortage on the Colorado River, or used to provide additional waters to Arizona (including Arizona Tribes), include all Arizona CAP Tribes in the mutual “wet water” and financial benefits of such schemes. Otherwise, the Tribes will be subject to significant injury as a result of the manipulation schemes in violation of the Law of the River, and the contractual and constitutional rights of the Tribes.

5. The DEIS Does Not Discuss the Legal Authority for Allowing Credits for Fallowed Lands, Canal Lining and Other “Conservation” Measures

The DEIS does not discuss any legal authority which would permit the States to obtain credits for “fallowing” lands, canal lining and other measures undertaken to purportedly “conserve” Colorado River water. Under the law in Arizona, other western States and Federal Reclamation Law, the waters “conserved” by the fallowing of lands and the lining of canals is committed back to the stream flow to be used by the next water user in the system. *See Phelps Dodge Corp. v. Ariz. Dep’t of Water Res.*, 2005 Ariz. App. LEXIS 108 (Ariz. Ct. App. 2005) (observing that water rights in Arizona are “. . . usufructory, to ensure a maximum beneficial use of Arizona’s water resources.”) (citing *Clough v. Wing*, 2 Ariz. 371, 379-81, 17 P. 453, 455-56 (Terr. 1888)); *Salt River Valley Water Users’ Ass’n v. Kovacovich*, 3 Ariz. App. 28, 411 P.2d 201, 203 (Ariz. Ct. App. 1966) (“any practice, whether through water-saving procedures or otherwise, whereby [a diverter] may in fact reduce the quantity of water actually taken inures to the benefit of other water users and neither creates a right to use the waters saved as a marketable commodity nor the right to apply same to adjacent property having no appurtenant water rights.”); Kinney, *Treatise on the Law of Irrigation and Water Rights and the Arid Region*, (2nd Ed. 1912), §782, 783.

The DEIS must discuss what legal authority would permit the States to commit “conserved” water to inure to the benefit of a single party or particular beneficiary, rather than for the use and benefit

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of **all** users in the Colorado River system under the Law of the River. Furthermore, if such a “conservation” scheme could be lawfully implemented and used to benefit particular parties or beneficiaries, the Tribes must be permitted to participate, and the Secretary must fully support and protect the Tribe’s full and unfettered participation and receipt of benefits.

6. Use of Surplus by Basin States

The Basin States Alternative also proposes a different scheme for the distribution of surplus. For instance, the Basin States Alternative would “[d]istribute Arizona’s share to surplus demands in Arizona including off stream banking and interstate banking demands.” *See* Appendix at J-9. The problem is that based upon historical and present practices by Arizona (which is charged with protecting the entire State’s equitable apportionment from the Colorado River, including that which is used by the Tribes) the State would nevertheless use this surplus for the benefit of non-Indians, to the exclusion of the Tribes. In fact, the State of Arizona is engaging in this conduct now, through, *inter alia*, the Arizona Water Banking Authority and the interstate water banking agreement with Nevada. The Secretary’s approval of the Basin States Alternative would put the weight of authority of the United States behind these wrongful acts by the State of Arizona.

The Secretary should not select the Basin States Alternative or any other alternative, where it would exclude Tribes from participation in the arrangements made on the Colorado River during times of surplus. In addition, the Secretary must include the Arizona Tribes and ensure that the Arizona Tribes receive the mutual benefits of surplus on the Colorado River.

7. The DEIS Does Not Provide Adequate Details Regarding the Basin States Proposal for Accounting Policy and Procedure for Intentionally Created Surplus

The DEIS does not provide sufficient detail regarding the alternatives for the accounting policy and procedure that the Secretary would implement for Intentionally Created Surplus or any other

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“conserved” water. Without this detail, it is unclear as to how the CAP Tribes would be permitted to participate in the ICS and the impact of the uses of the ICS upon the Tribes. This should be corrected in the DEIS.

8. The Arizona Water Settlements Act, P.L. 108-451 Is Not Yet Enforceable

The DEIS’ underlying assumption and reliance upon the AWSA as defining the characteristics of the CAP is premature. *See* DEIS at 4-81. The AWSA is not yet enforceable and may never become enforceable. If so, the DEIS or Final EIS intended to be published by December 2007, will require immediate revision and further public comment. In addition, the existing DEIS should include an impact analysis which compares the impacts under the present characteristics of the CAP with the impacts under the characteristics which would exist if the AWSA were to become enforceable.

9. There Is No Misunderstanding As To How Shortages Are To Be Distributed Between CAP Indian and M&I Priority Users Within the CAP

The DEIS states that “prior to the enactment of the AWSA, there were differing views as to how mild shortages would be distributed between CAP Indian and M&I priority users.” (DEIS at 4-124). While there may be so-called “differing views”, the Tribe’s CAP Contract is very clear regarding how shortages are to be implemented as to the Tribe. Furthermore, the AWSA did nothing to clarify how such shortages are shared, because the Tribe’s CAP Contract cannot be affected or modified by the AWSA. The DEIS and its underlying assumptions must be changed to reflect and analyze the true nature of the Tribe’s CAP entitlement and how shortages within CAP will be implemented as to the Tribe.

10. The DEIS States an Incorrect Amount of CAP Water That Is Allocated to the Tribe

The DEIS incorrectly states the amount of CAP water to which the Tribe is entitled at 61,645. *See e.g.* DEIS at 3-85. Pursuant to the 1992 Settlement Act and Agreement, the Tribe is entitled to

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64,145 acre-feet of CAP water. The DEIS also shows all Indian CAP water as if it was part of the CAWCD contract with the Secretary. The DEIS must be revised to correct these errors.

11. The DEIS Fails to Adequately Discuss or Analyze the Impacts of the Alternatives Upon the Tribe

The DEIS finds that “No vested water right of any kind, quantified or unquantified, including federally reserved Indian rights to Colorado River water, rights pursuant to the Consolidated Decree or Congressionally-approved water right settlements utilizing CAP water, will be altered as a result of any of the alternatives under consideration.” DEIS at 4-123. This is incorrect.

The DEIS erroneously attempts to delineate between a paper water right and wet water. These are one in the same. Whether or not the paper water right becomes wet water is determined by whether or not the law is followed and whether or not the Secretary undertakes actions (or fails to take actions) which diminish the reliability or injure the ability of the Tribe to receive its wet water. The implementation of shortage sharing criteria which would hinder the Tribe’s ability to receive the water to which it is entitled, and the selection of an alternative which would permit waters to be “conserved” and committed to exclusive use by certain parties, alters the reliability of the Tribe’s entitlement to CAP water. The DEIS cannot distinguish between the effect of the alternative upon the legal entitlement of the Tribe versus the effect upon the Tribe’s receipt of the wet waters pursuant to the legal entitlement.

The DEIS proposes alternatives which will impact and diminish the reliability of the CAP water supply and thus, injure the ability of the Tribe to receive the wet water to which it is entitled. The Secretary is charged with the responsibility to implement shortage sharing criteria which protect the Tribe’s receipt of the CAP water supply which is an Indian Trust Asset. The DEIS must analyze the impacts upon the Tribe’s receipt of the water to which it is entitled, and not merely make a statement that the alternatives will have “no effect” upon the Tribe’s legal entitlement to the CAP water. A policy

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which proclaims no impact on the Tribe's legal entitlement which results in **no wet water** to fulfill its entitlement is deceptive and amounts to invidious discrimination. The DEIS' avoidance of discussing the true impact of the alternatives upon the Tribe must be corrected.

12. The DEIS Fails to Discuss How "Voluntary" Shortages Would Be Implemented and Their Resultant Effect Upon the Tribe and Its Right to CAP Water

The DEIS mentions that certain "voluntary" shortages could be implemented. DEIS at 4-12. However, the DEIS is unclear as to who would agree to such voluntary shortages. The Secretary cannot permit the State of Arizona to decide whether or not it would enter into a voluntary shortage, where such shortage would diminish the reliability of the Tribe's CAP water. This is simply unlawful. Furthermore, the Secretary cannot allow other states to enter into "voluntary" shortages and alternative River management schemes that would create conditions where the Tribes were required to bear shortages that would not otherwise be borne, absent such voluntary agreements or schemes. The DEIS fails to discuss this in any detail. The DEIS should be revised for clarity and to provide a meaningful analysis of the impacts of the proposed "voluntary" shortages to the Tribe's receipt of its CAP water supply.

13. The DEIS Fails to Discuss the Potential Impact of Any of the Alternatives on Water Quality or Quantity to Which the Republic of Mexico is Entitled Under Treaty

The DEIS fails to discuss the ongoing and potential environmental impacts of any of the alternatives on the Colorado River delta, including wet lands, and the fact that the delta is one of the primary marine nurseries supporting aquatic life, fisheries and migratory wildlife subject to international treaties, and the ultimate fish production and annual catch allocated among countries of the Pacific Rim. The alternatives proposed by the DEIS, with the increase in use of the Colorado River proposed by the alternatives, including the Basin States Alternative, will undoubtedly impact the delta.

THE SPARKS LAW FIRM, P. C.

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Please continue to keep this Firm on your mailing list for all future communications and documents related to this matter.

Yours Truly,

THE SPARKS LAW FIRM, P.C.



Robyn L. Interpreter

RLI/rli

cc: Wendsler Nosie, Sr., Chairman
David Reede, Vice-Chairman
Council Members



WATER RESOURCES
9388 E. SAN SALVADOR
SCOTTSDALE, AZ 85258
PHONE: (480) 312-5685 / FAX: (480) 312-5615

Date: 4/30/07

To: US Bureau of Reclamation

Fax Number: 702-293-8156

From: David Mansfield

Phone Number: 480-312-5685

Number of Pages including Cover: 5

Comments:

If you experience any difficulty receiving this fax, please call (480) 312-5685.



• "Most Livable City" U.S. Conference of Mayors •

27 April 2007

*Via Facsimile 702-293-8156
Copy to Follow via US Mail*

Regional Director
Lower Colorado Region
US Bureau of Reclamation
Attn: BCOO-1000
PO Box 61470
Boulder City, NV 89006

RE: *City of Scottsdale, Arizona Comments Regarding the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement*

Dear Sir or Madam:

The City of Scottsdale, Arizona ("Scottsdale") hereby submits its comments regarding the "Draft Environmental Impact Statement for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead" (DEIS). Additionally, Scottsdale understands that the Arizona Department of Water Resources and the Arizona Municipal Water Users' Association ("AMWUA") will be also be providing comments on this issue. Scottsdale supports those comments.

More than 240,000 people rely on the City of Scottsdale to provide safe, reliable drinking water supplies and Central Arizona Project ("CAP") water is a key component of the City's long-term water resources strategy. Nearly two-thirds of Scottsdale's water supply needs are currently met with varying types of CAP water. Scottsdale has subcontracts for M&I priority water, non-Indian agricultural water, and excess CAP water. We also lease CAP water from three Native American communities. Because of our high reliance on CAP to meet our water needs, the preferred alternative that is selected for implementation by the Bureau is of critical interest to the City of Scottsdale.

Scottsdale Supports the Basin States Alternative as the Preferred Alternative

Scottsdale supports selection of the Basin States Alternative as the preferred alternative in the final environmental impact statement and supports implementation of the Basin States Alternative through the final record of decision. This alternative is a compromise alternative acceptable to each of the seven Colorado River Basin States. In selecting the pre-

ferred alternative and finalizing the record of decision, the Secretary of the Interior (Secretary) should recognize the value of this unique compromise.

Furthermore, the Basin States Alternative does not require any additional statutory authorization and is the only alternative that can be implemented immediately after the Secretary issues the final record of decision. Implementation of the other alternatives, particularly the Conservation Before Shortage and the Reservoir Storage Alternatives, would require substantive changes to the Law of the River.

Water Management Considerations

For decades Scottsdale has been actively planning and preparing to address water shortages. The City has taken proactive steps toward achieving long-term water supply sustainability, including the following:

- implementation of enhanced water conservation programs;
- reclaimed effluent reuse by the golf courses in north Scottsdale;
- recharging the groundwater table using highly treated effluent; and
- groundwater recharge of potable CAP water using dual purpose aquifer storage and recovery ("ASR") wells.

Adoption of the Basin States Alternative as the preferred alternative in the final environmental impact statement will provide the certainty necessary for Scottsdale to continue the responsible planning necessary to address the adverse impacts that could occur during Colorado River shortages.

Scottsdale has developed an extensive water conservation customer outreach program. Our five full-time staff positions are supplemented by a group of active volunteers. The City is an active participant in the "Water - Use It Wisely" program, which is a regional water conservation public information campaign. The water conservation staff also participates in regional public exhibits, fairs, and festivals. In addition, the City provides a number of financial incentives for conservation, including for example offering rebates to encourage turf removal.

Golf courses are a large water user in Scottsdale. Therefore, Scottsdale has developed strategies to minimize the impact they have on our potable water supplies. Scottsdale reclaims wastewater at our Water Campus facility, treating the water for use for golf course irrigation. This water is delivered through Scottsdale's Reclaimed Water Delivery System (RWDS), which is the largest reclaimed water reuse system in the Valley. The RWDS delivers reclaimed water to twenty three golf courses in north Scottsdale. In addition, the City's Council-adopted golf course policy requires that any future golf courses must provide their own renewable surface water supply in order to locate in Scottsdale.

Scottsdale is also a leader in the Phoenix area in increasing the long term sustainability of our groundwater through artificial groundwater recharge. The City is replenishing our groundwater supply by recharging reclaimed water at our Water Campus facility in North Scottsdale. In 2005, this groundwater recharge added over 2-1/4 billion gallons of

water to our underground aquifers. Water stored in these aquifers is an important part of Scottsdale's overall water supply management strategy.

Scottsdale is also implementing groundwater recharge/recovery throughout the City by injecting treated CAP water directly into the aquifer through specially designed wells. These wells are used to recharge during the winter low water use demand periods, and supplement the water supply during the high demand summer months.

Record of Decision Guidelines

Scottsdale expects and needs the final record of decision to clearly and unambiguously set forth the guidelines that the Secretary will use to declare a shortage in the lower basin. The record of decision should identify and adopt guidelines consistent with implementation of the Basin States Alternative that the Secretary must follow in formulating each of the annual operating plans through 2026.

The Basin States Alternative requires that the record of decision acknowledge that the lower basin States must agree to the terms and conditions for forbearing, if necessary, their rights to delivery of Colorado River water in order to allow for the development, storage and delivery of any Intentionally Created Surplus (ICS) as defined by the DEIS. Scottsdale would object if the Secretary issued a unilateral authorization that allowed for the creation of ICS without this agreement by the States.

Finally, the record of decision should state that the Secretary will consult with the seven basin States if the Secretary is considering declaring a shortage to the lower basin States exceeding 500,000 acre-feet. The goal of this consultation should be to minimize the impacts on the lower basin States in general, and on Arizona and the CAP in particular.

Lower Basin Shortage Sharing

As contemplated by the Basin States Alternative, Arizona and Nevada have finalized and executed a Shortage Sharing Agreement dated February 9, 2007. The preferred alternative and the record of decision must be consistent with this Shortage Sharing Agreement.

Additionally, ADWR established an intrastate process involving all interested parties to develop a method to distribute Arizona's shortage reductions between the CAP and equivalent priority Arizona mainstream water users. This method is described in the "Director's Shortage Sharing Workgroup Recommendation, October 24, 2006, (Revised) Final". Scottsdale understands that this Recommendation has been transmitted to the Bureau by ADWR. The preferred alternative and the record of decision must also be consistent with this Recommendation.

Economic Impacts

The DEIS inadequately addresses the economic impacts that would result from changes in deliveries of Colorado River water to municipal water users in Arizona, including

Scottsdale. The DEIS minimizes these potentially significant impacts by concluding that "implementing statewide and local demand-side and supply-side strategies are expected to minimize adverse socioeconomic effects occurring during the maximum M&I shortage." (DEIS at p. 4-283)

As pointed out earlier, Scottsdale has already taken steps to develop sustainable water supplies for its customers. Since enactment of the 1980 Groundwater Management Act, Scottsdale has implemented extensive water conservation programs that include ordinances governing landscaping, plumbing retrofit rebate programs, leak detection and control programs, and implementation of conservation oriented water rate structures. Consequently, the opportunity to make up for shortages in deliveries of CAP water through additional conservation programs is very limited. Scottsdale has also implemented comprehensive effluent reuse programs, adopted development impact fees, and established extensive recharge programs. All of these programs come at considerable expense.

It is therefore inappropriate to assume that the socioeconomic impacts on Scottsdale from changes in deliveries of CAP water can be minimized in any material way by implementing basic demand management and supply augmentation strategies. As mentioned above, existing demand management and supply augmentation programs are designed to insure supply sustainability in normal water supply years. Any programs developed as drought response will have additional impacts that have not been addressed in the DEIS.

Scottsdale strongly urges the Secretary to choose the Basin States Alternative as the preferred alternative in the Final EIS. We also urge the Secretary to adopt a ROD that includes the guidelines and criteria necessary to implement the Basin States Alternative in a manner consistent with the carefully negotiated compromise agreements developed among the seven basin states.

We appreciate the opportunity to comment on the DEIS.

Sincerely,



David M. Mansfield
General Manager

cc: Arizona Department of Water Resources
Arizona Municipal Water Users Association

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4/25/07
BCOON-1003

April 23, 2007

Ms. Jayne Harkins
Acting Regional Director
Lower Colorado Region
Bureau of Reclamation
Attention: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Draft EIS Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Dear Ms. Harkins:

On behalf of the Southern California Water Committee (SCWC), I am please to submit our comments on the Draft EIS on the proposed adoption of specific Colorado River interim guidelines for Lower Basin shortages and operations for Lake Powell and Lake Mead. With the purpose of proposed federal action to improve Reclamation's management of the Colorado River, the SCWC supports the Basin States Alternative as the preferred action alternative.

Important to California is the ability to coordinate the operations of Lake Powell and Lake Mead because, with that coordination, water shortages would be minimized in the Lower Basin, while also avoiding the risk of curtailments of Colorado River water in the Upper Basin. In addition, the Basin States Alternative allows for water storage in Lake Mead, which benefits not only California, but also Arizona and Nevada. Water stored in Lake Mead stays in the Colorado River system, rather than that water being diverted by Metropolitan Water District of Southern California to Diamond Valley Reservoir for storage.

The Basin States Alternative calls for an extension of the Interim Surplus Guidelines for water deliveries from Lake Mead to 2026 which would provide assurances that Metropolitan Water District could access supplies above California's basin apportionment of 4.4 million acre-feet of water. Given the potential for water supply shortages in the Sacramento-San Joaquin Delta, the other major source of water for Southern California, the Basin States Alternative would provide a measure of insurance in case of a catastrophic loss of water in the Delta.

The Southern California Water Committee appreciates the opportunity to comment on the draft EIS and look forward to a preferred alternative that will provide California a greater degree of predictability in the amount of water that can be delivered from the Colorado River in future years.

Very truly yours,

Joan Anderson Dvm
Executive Director

>>> "Nancy Messer" <nancy@ed-3.org> 04/27/07 03:30PM >>>
Ms. Harkins:

Attached for your records is a scanned copy of the letter mailed out today to your attention regarding SCWPDA's comments regarding the Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead ("Draft EIS").

Grant R. Ward

General Manager

Santa Cruz Water & Power District's Association (SCWPDA).

Nancy Messer

Executive Assistant to Grant Ward, General Manager

ED3 & MSIDD & SCWPDA

41630 W. Louis Johnson Drive

Maricopa, AZ 85239

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SANTA CRUZ WATER & POWER DISTRICTS ASSOCIATION

41630 W. Louis Johnson Dr., Maricopa, AZ 85239

Phone (520) 876-4982 • Fax (520) 424-3281

Central Arizona Irrigation and Drainage District
Maricopa-Stanfield Irrigation and Drainage District
Electrical District No. 3
Electrical District No. 4



Dan Thelander, President
Bryan Hartman, Vice-President
DeWitt Weddle, Vice-President
Mark Hamilton, Secretary/Treasurer
Grant R. Ward, General Manager
Paul R. Orme, General Counsel

April 27, 2007

Ms. Jayne Harkins, Acting Regional Director
U. S. Bureau of Reclamation
Lower Colorado Region
Attn.: BCOO-1000
P. O. Box 61470
Boulder City, NV 89006-1470

RE: Santa Cruz Water & Power Districts Association's Comments Regarding the Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead ("Draft EIS")

Dear Ms. Harkins:

The purpose of this letter is to provide comments on the above referenced Draft EIS. The Santa Cruz Water & Power Districts Association (SCWPDA) consists of two irrigation districts and two electrical districts, which combined represent over 200,000 acres, all located in Pinal County, Arizona. The two member irrigation districts (Maricopa-Stanfield Irrigation & Drainage District and Central Arizona Irrigation & Drainage District) are the largest Central Arizona Project ("CAP") agricultural excess water contractors, and together are allocated more than 50 percent of the 400,000 acre foot CAP Agricultural Pool.

SCWPDA's concerns about the Colorado River Interim Shortage Guidelines in general, and the Draft EIS in particular, stem from the vulnerable position of its member irrigation districts to Colorado River Lower Basin shortages. Given CAP's lower priority with respect to California, and agriculture's lower priority within the CAP, these shortage concerns are self-evident. For this reason, SCWPDA was an active participant in the Arizona Department of Water Resources Director's Shortage Sharing Workshop which led to Arizona's contribution to the Basin States Alternative set forth in the Draft EIS. Consequently, SCWPDA urges that Reclamation adopt the Basin States Alternative as the Preferred Alternative in the final EIS and Record of Decision.

Ms. Jayne Harkins, Acting Regional Director
U. S. Bureau of Reclamation, Lower Colorado Region
April 27, 2007
Page 2

Of the various alternatives considered in the Draft EIS, the "Reservoir Shortage Alternative" is of most concern to our Districts. This Alternative would clearly violate Article IV (b) of the Colorado River Compact which subordinates the impoundment of water for generation of electrical power to direct consumption of water for "agricultural and domestic purposes". The proposed cuts to Lower Basin water supplies would have an enormous negative impact on CAP agriculture.

SCWPDA supports the official comments of ADWR Director, Herbert R. Guenther, on the discussion of the various alternatives discussed in the Draft EIS and will not elaborate further on these comments. In addition, SCWPDA supports the anticipated comments of the Arizona Municipal Water Users Association ("AMWUA") and the Colorado River Energy Distributors Association ("CREDA"). We support CREDA's views that power users should not be required to fund non-power water conservation programs such as is suggested in the Conservation Before Storage Draft EIS Alternative.

In conclusion, SCWPDA supports the Basin States Alternative as the Preferred Alternative to be adopted in the final EIS and Record of Decision.

Sincerely,



Grant R. Ward
General Manager

- c: Robert W. Johnson, Commissioner, U. S. Bureau of Reclamation
Rick Gold, Regional Director, U. S. Bureau of Reclamation, Upper Colorado
Regional Office
Larry Walkoviak, Deputy Regional Director, U. S. Bureau of Reclamation,
Lower Colorado Regional Office
Herbert Guenther, Director, Arizona Department of Water Resources
Sid Wilson, General Manager, Central Arizona Water Conservation District
Leslie James, Executive Director, Colorado River Energy Distributors Association
Steve Olson, Executive Director, Arizona Municipal Water Users Association



SOUTHERN NEVADA
WATER AUTHORITY

STATE OF NEVADA



COLORADO RIVER COMMISSION
OF NEVADA

April 27, 2007

Honorable Dirk Kempthorne, Secretary
Department of the Interior
1849 C Street, NW
Washington, D.C. 20240

Re: Nevada's Comments on *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Dear Secretary Kempthorne:

Thank you for the opportunity to comment on the *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* (72 Fed. Reg. 9,026) (Feb. 28, 2007) (hereinafter "DEIS"). The Southern Nevada Water Authority ("SNWA") and Colorado River Commission of Nevada ("CRC") (together hereinafter jointly referred to as "Nevada") submit these comments related to Nevada-specific items in the DEIS. Additionally, Nevada supports the comments made jointly by the Seven Basin States that are sent under separate cover. The following comments are presented according to the order in which the subjects related to the comment appear in the DEIS.

Basin States' Proposal

Nevada points out that some consideration needs to be given to the fact that implementation of any alternative other than the Basin States' Proposal will carry with it a significant degree of uncertainty. The Basin States' Agreement, Forbearance Agreement and Arizona-Nevada Shortage Sharing Agreement are each contingent upon the issuance of a Record of Decision that is consistent with the material terms of those agreements. The several compromises agreed to by the parties to these agreements make it possible for components of the proposed action, such as coordinated management of Lakes Mead and Powell and the creation and release of the Intentionally Created Surplus (ICS), to be implemented without adversarial proceedings between the Basin States and major water users on the Colorado River.

In this same context, Nevada does not agree with all of the legal interpretations and modeling assumptions used in the DEIS. However, it has agreed to set these disagreements aside for the Interim Period to support a compromise agreement among the Basin States that Nevada believes to be in the best interests of the entire Colorado River community. Because the several compromises in the Basin States' Proposal would not be preserved if an alternative other than the Basin States' alternative is selected, Nevada strongly urges the selection of the Basin States' Proposal as the Preferred Alternative in the Final Environmental Impact Statement ("FEIS") and the implementation of the material terms of that proposal in the Record of Decision.

Analysis of Nevada Projects in the DEIS

As the Secretary is aware, Nevada is currently pursuing three separate projects to develop System Efficiency, Tributary Conservation and Imported ICS, as those terms are defined in the Basin States Proposal, with delivery taken by SNWA from Lake Mead. Each of these projects has been agreed to among the parties to the Forbearance Agreement and final details regarding these projects will be set forth in exhibits to the Forbearance Agreement. During shortages, water from projects that would otherwise qualify as Tributary Conservation ICS and Imported ICS would be available for creation, release and delivery as Developed Shortage Supply. Nevada also anticipates that a Delivery Agreement between the United States, Nevada and possibly other Lower Basin entities that provides for delivery of water from these three projects will be executed concurrently with the ROD and requests that Reclamation include such analysis of the proposed Delivery Agreement in the FEIS as is necessary to allow for the Delivery Agreements execution concurrent with the issuance of the ROD.

The first of these three projects is participation in the Drop 2 Reservoir Storage Project in Imperial County, California, which would provide efficiencies in use of Lower Colorado River system water. This project is discussed at section 5.1.27 in the DEIS. Reclamation should issue a Final Environmental Assessment (EA) for this project shortly. The second project is construction of the Coyote Spring Well and Moapa Transmission System Project, in Clark County, Nevada that will convey groundwater from Coyote Spring Valley into the Muddy River. This project is discussed at section 5.1.22 of the DEIS. The Bureau of Land Management is anticipated to issue a Final EA for this project shortly. Project specific impacts are being analyzed under separate NEPA processes for these projects, and the DEIS sufficiently analyzes environmental effects to the Colorado River from the implementation of these projects. Therefore additional analysis by Reclamation in the FEIS, if any, should be sufficient to allow for the execution of a Delivery Agreement, concurrent with issuance of the ROD, authorizing Nevada to utilize water available from these two projects.

The third project that will be included within both the Forbearance Agreement and a Delivery Agreement is Tributary Conservation along the Virgin and Muddy Rivers. This project will either develop Tributary Conservation ICS that will be delivered within the same year that it is created, or develop Extraordinary Conservation ICS that can be stored in Lake Mead. The modeling used in

the DEIS has included Nevada's estimates for Virgin and Muddy River tributary conservation (as described in Appendix M, Chapter M.3.1.3), and the potential environmental impacts within the Colorado River system are described in the document. Proposed Interim Guidelines forwarded by the Basin States to the Secretary include the accounting and verification process for Tributary Conservation projects. In order to provide a full environmental evaluation, the FEIS should also evaluate potential effects within the Virgin and Muddy River systems and of execution of the proposed Delivery Agreement so that a Delivery Agreement that authorizes Nevada to utilize water from these projects can be executed concurrent with the ROD. In order to assist Reclamation with this analysis, Nevada has included a summary of the water rights involved as well as certain hydrologic and environmental data. This summary is attached as "Attachment A".

General Comments on DEIS Volume One (Chapters 1 through 6)

1. Section 2.3.3, Table 2.3-2, and Table M-2 in the DEIS imply that storage volume and delivery limitations discussed in those provisions apply to all classifications of Intentionally Created Surplus. In accordance with the Basin States' Proposal, these storage volumes and delivery limitations apply only to that classification of ICS termed "Extraordinary Conservation" in the Basin States' Proposal, and specifically do not apply to Tributary Conservation, System Efficiency, and Imported ICS as those terms are defined in the Basin States' Proposal.
2. Figure 3.2-1 and Figure ES-1 should be changed to show that SNWA's service territory includes all of Clark County. Currently the Figures show only the Las Vegas Valley in yellow; it should show all of Clark County in yellow.
3. Section 3.11.7.3 should discuss the Basic Management ("BMI") intake. This intake is located at 1050 feet msl and serves the industries within the BMI complex, portions of the Lake Las Vegas resort, golf courses, a Nevada Department of Wildlife fish hatchery, and the City of Henderson's treatment plant. Therefore, these uses served by the BMI intake will be threatened if Lake Mead levels drop below 1050 feet msl. Most of these impacts could be mitigated through use of SNWP water.
4. Table 3.14-2 reflects agriculture in Clark County. However, the inclusion of this table in the DEIS is misleading. The agricultural use displayed in this table does not use water from the Colorado River. Therefore, this agricultural use should be removed from the DEIS. As further discussed above, within Nevada, only those agricultural uses associated with SNWA's Tributary Conservation ICS projects along the Virgin and Muddy Rivers should be analyzed as part of the DEIS.
5. The statements in section 4.14.3.3 and ES.2.13.2 that "socioeconomic effects on southern Nevada's M&I sector resulting from the proposed alternatives would not be substantial" are

misleading. Reductions in water deliveries to Nevada anywhere between 13,000 and 84,290 acre-feet in any given year, as modeled in the DEIS,¹ will at some level begin to cause socioeconomic effects not only within Las Vegas and Clark County, but throughout Nevada. Unlike the other Basin States, Nevada does not have large agricultural water users to provide a buffer during drought through fallowing. Additionally, Nevada's water demand consists of hard, municipal demands that are not as flexible during drought. SNWA's Drought Plan is intended to ameliorate those effects and accommodate anticipated reductions in water deliveries. But the Drought Plan does not provide the type of absolute protection against either socioeconomic impacts or the possibility of interruptions in municipal water supplies that the DEIS implies.

Nevada feels strongly that, in accordance with the Basin States' Proposal, no reductions in delivery above 20,000 acre-feet in any year should be imposed upon Nevada without further consultation between the Secretary and the Basin States, and requests that the M&I socioeconomic impact analysis in the FEIS be refined to more accurately reflect different levels of socioeconomic impacts to M&I water users, including health and human safety concerns, for any reductions in deliveries above 20,000 acre-feet in any year.

6. Chapter 5, Section 5.1.21 should be modified to show that SNWA's commitment not to proceed with the Virgin River pipeline project remains in effect only if the Basin States' Proposal is implemented.

General Comments on Volume Two of the DEIS

1. Table D-3 should be modified to reflect that SNWP is not the only user of Colorado River water in Nevada upstream of Hoover Dam. Other users, such as BMI and PABCO, should be represented in Table D-3. Alternatively, the title of the SNWP column could be changed to "Uses above Hoover Dam," with the notation that "SNWP is the primary user above Hoover Dam."
2. On pages M-3 and M-4, the FEIS should make it clear that evaporation losses are only assessed at the end of the year on what is remaining in an ICS account at that time. Therefore, no evaporation loss is assessed on ICS that is created and delivered within the same year.
3. Throughout the document, and particularly on page M-6 and in Table M-3, there are references to the possibility of desalinization being used to augment flows in the Colorado River. However, other system augmentation projects besides desalinization are being considered, so when this subject is discussed in the FEIS, the word "desalinization" should

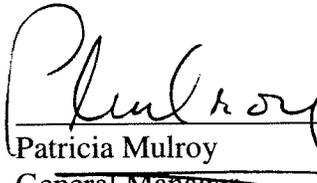
¹ This range does not include modeling within some alternatives that would allow Lake Mead elevations to drop below 1,000 feet msl, leaving SNWA and approximately 2 million people without 90% of the water supply they rely upon.

be changed to "system augmentation." Also on page M-6, in the first paragraph, the year 2012 should be changed to 2020.

4. In Table M-3, storage and delivery schedules for Nevada's Tributary Conservation water need to be updated to include the recovery in years 2025 through 2036 of water banked between 2008 and 2024. Also, the Drop 2 project should be included in this table.
5. The first paragraph on page M-6 should be modified as follows: delete first three words, replace with "Nevada state groundwater introduced directly into Lake Mead or wastewater produced by these introductions are assumed to be available during the period from 2009 through 2060." Throughout the paragraph, the term "return flow" should be replaced with "introductions or wastewater produced from introductions." An additional sentence should be added to reflect that Imported ICS may be stored during all water supply conditions except Flood Control Surplus conditions, and may be delivered during Normal, ICS Surplus and Shortage conditions.
6. The third paragraph on page M-6 should reflect that Nevada may take Drop 2 Reservoir water at a maximum rate of 40 kaf each year until a total of 500 kaf has been taken (not 300 kaf).

In closing, Nevada thanks you for your leadership and urges Interior to adopt a ROD that includes all of the material terms of the Basin States' Proposal.

DATE: 4-27-07


Patricia Mulroy
General Manager
Southern Nevada Water Authority

DATE: 4-27-07


Richard W. Bunker
Chairman
Colorado River Commission of Nevada

- c: Robert W. Johnson, Commissioner, U. S. Bureau of Reclamation
Rick Gold, Regional Director, U. S. Bureau of Reclamation, Upper Colorado Regional Office
Jayne Harkins, Acting Regional Director, U. S. Bureau of Reclamation, Lower Colorado Regional Office
Larry Walkoviak, Deputy Regional Director, U. S. Bureau of Reclamation, Lower Colorado Regional Office

ATTACHMENT “A”

Nevada Comments on Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

SNWA has been purchasing pre-Boulder Canyon Project Act (BCPA) Virgin River and Muddy River water rights in Nevada since 1997. Water rights historically being used for agriculture along these rivers are voluntarily being retired and willingly sold or leased to willing buyers. The following information summarizes the pre-BCPA rights on the Muddy and Virgin Rivers along with the associated beneficial impacts of retiring these rights through the proposed Tributary Conservation program.

Virgin and Muddy River Water Rights Background

Pre-BCPA water rights on the Virgin River have a priority date of pre-1905 and were decreed by the Nevada Supreme Court in 1927. The decree allocated 17,785 acre-feet per year (afy) to the Bunkerville and Mesquite Irrigation Companies. SNWA currently owns shares in the Bunkerville Irrigation Company representing approximately 3,700 afy of surface water rights.

On the Muddy River, water rights were decreed by Nevada’s 10th District Court (now 8th District Court) in 1920. The decree allocated the entire flow of the Muddy River. SNWA currently owns shares in the Moapa Valley Irrigation Company representing approximately 7,000 afy of surface water rights.

Between the Virgin and Muddy Rivers, SNWA anticipates acquiring approximately 30,000 afy of pre-BCPA water rights, which is the same quantity analyzed in the DEIS as represented in Table M-3. The water rights that are currently retired or will be retired in the future will be conveyed to Lake Mead via the Overton Arm under the proposed Tributary Conservation program.

Anticipated Tributary Conservation

Agricultural acreage on the Virgin River is currently about 823 acres out of a total of 1,963 decreed acres. The majority of the existing agricultural acreage is in the Bunkerville Irrigation Company. Most of the Mesquite Irrigation Company agricultural lands as identified in the decree have been retired and portions of the agricultural water rights are being willingly sold or leased to willing buyers for non-agricultural uses, such as golf courses, in the area of Mesquite, Nevada.

Agricultural acreage on the Muddy River is currently about 2,253 acres of land located in Lower Moapa Valley and small portions of the upper Muddy River, including the Moapa Band of Paiutes’ land. These lands, similar to the Virgin River area, are slowly being retired and the water rights associated with the land are being used for non-agricultural purposes.

Analysis of Impacts to the Virgin and Muddy River from Tributary Conservation

The water rights used for agricultural uses that have been or will be retired will be conveyed to Lake Mead via the Overton Arm in one of two fashions. If the flow volume is required to run through irrigation company ditches to maintain head and avoid fiscal impacts associated with upgrading ditches to accommodate less flow, the water will run through the ditches and return to the mainstem of the Muddy or Virgin River at some downstream return point. Alternatively, the water could be left in the mainstem of the river and not flow through the irrigation company ditches. Since this water is water that historically has composed the flow of the river it will not create any new concerns associated with flood control or channel capacity. In addition, the water left in the mainstem will augment and sustain existing flows in both rivers allowing for assured flows that will benefit recreation, wildlife, and aesthetics. Water quality benefits may also occur due to less agricultural runoff entering the rivers.

Cumulative Impacts

The related environmental programs described in Chapter 4.8.1 and federal statutes and policies in Chapter 5.1 should also include the following programs pertinent to the Virgin River and Muddy River:

Virgin River Habitat Conservation and Recovery Program

The Virgin River Habitat Conservation and Recovery Program (HCRP) is currently under development to satisfy the requirements of the Biological Opinion on the Sale of 10,620 Acres of Public Lands in Clark County, Nevada to the City of Mesquite under the Mesquite Lands Act of 1986, as amended in 1996 and 1999. Covered species proposed for the HCRP include: Virgin River chub (*Gila seminuda*), woundfin (*Plagopterus argentissimus*), southwestern willow flycatcher (*Empidonax trallii extimus*), Yuma clapper rail (*Rallus longirostris yumanensis*), and yellow-billed cuckoo (*Coccyzus americanus*).

Muddy River Recovery Implementation Program

The Muddy River Recovery Implementation Program (RIP) is currently under development to satisfy the requirements of the Intra-Service Programmatic Biological Opinion for the Proposed Muddy River Memorandum of Agreement Regarding the Groundwater Withdrawal of 16,100 Acre-Feet per Year from the Regional Carbonate Aquifer in Coyote Spring Valley and California Wash Basins, and Establish Conservation Measures for the Moapa Dace, Clark County, Nevada. Covered species proposed for the RIP correspond to the species listed in the 1996 Recovery Plan for the Rare Aquatic Species of the Muddy River Ecosystem and include: Moapa dace (*Moapa coriacea*), Virgin River chub (*Gila seminuda*), Moapa speckled dace (*Rhinichthys osculus moapae*), Moapa White River springfish (*Crenichthys baileyi moapae*), Moapa pebblesnail (*Fluminicola*

avernalis), grated tryonia (*Tryonia clathrata*), Moapa Warm Spring riffle beetle (*Stenelmis moapa*), and Amargosa naucorid (*Pelocoris shoshone shoshone*).

Regional Director
April 25, 2007
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DEIS at 1-7. Nonetheless, it is unrealistic to assert that in the event the Colorado River Basin is experiencing drought and low reservoir conditions, thus triggering the need for the Secretary of the Interior to reduce the annual amount of water available for consumptive use from Lake Mead to the Lower Basin states below 7.5 million acre-feet, that the Upper Basin states and tribes would not be affected.

The Secretary has a variety of responsibilities over the waters of the Colorado River pursuant to the Law of the River as reflected in the documents set forth in Table 1.7-1. DEIS 1-13. Additionally, and to no lesser extent, the Secretary has a fiduciary responsibility to the Tribe to protect tribal trust resources. As an agency of the federal government, the Bureau of Reclamation ("Reclamation") has a trust responsibility to all Indian tribes and tribal members, including the Southern Ute Indian Tribe and its members:

The United States has an Indian trust responsibility (trust responsibility) to protect and maintain rights reserved by or granted to Indian tribes or Indian individuals by treaties, statutes, and executive orders, which rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that all Federal agencies, including Reclamation, take all actions reasonably necessary to protect trust assets.

See Attachment 5, Bureau of Reclamation, Indian Trust Asset Policy (Aug. 31, 1994) in Protection of Indian Trust Resources (notebook on file with the Department of the Interior).¹

The Indian Trust Assets entitled to protection under the trust responsibility include water rights. *See id.* Thus, Reclamation has a trust responsibility to take all actions reasonably necessary to protect the Tribe's water rights, including its historic, existing and future use water rights. In fact, the United States' trust responsibility to the Tribe is of "the highest fiduciary standards," *Gila River Pima-Maricopa Indian Community v. United States*, 9 Cl. Ct. 660, 678 (1986), *aff'd*, 877 F.2d 961 (Fed. Cir. 1989),² and it does not wane because Congress has imposed upon it additional statutory obligations. *Nevada v. United States*, 463 U.S. 110, 128 (1983). Certainly, the United States may not subordinate its trust responsibility to protect the Tribe's rights by claiming that the interim guidelines for Lower Basin shortages must be enforced.

¹In February 1996, then Secretary of the Interior Babbitt and Assistant Secretary Deer transmitted to Interior employees a compilation of the policies and procedures adopted by the bureaus and offices of the Department of Interior relating to trust protection practices. This compilation notebook is referred to herein as "Protection of Indian Trust Resources."

²See also *In re the General Adjudication of all Rights to Use Water in the Gila River System and Source*, 35 P.3d 68, 74 (Ariz. 2001).

Regional Director
April 25, 2007
Page 3

II. RECLAMATION SHOULD SELECT A PREFERRED ALTERNATIVE

The DEIS provides that:

Reclamation has not identified a preferred alternative in the Draft EIS. The preferred alternative will be identified following public comments on the Draft EIS and will be expressed in the Final EIS. The preferred alternative may be one of the specific alternatives described below or it may incorporate elements or variations of these alternatives.

DEIS ES-3. By failing to identify a preferred alternative, the federal, state, tribal and local agencies are unable to provide any comments – an important part of the NEPA full disclosure process. Moreover, the Tribe is unable to determine whether the preferred alternative is in its best interests. *Jicarilla Apache Tribe v. Supron Energy Corp.*, 728 F.2d 1555, 1567 (10th Cir. 1984) (Seymour, Jr., concurring in part, dissenting in part), *modified on reh'g*, 782 F.2d 885 (10th Cir.), *modified*, 793 F.2d 1171 (10th Cir.) (adopting concurring/dissenting opinion of Seymour, J.), *cert. denied sub nom. Southern Union v. Jicarilla*, 479 U.S. 970 (1986).

Particularly troubling is Reclamation's assertion that it may cobble together a preferred alternative that "incorporate[s] elements or variations of these alternatives." DEIS at ES-3. Stated another way, Reclamation may select a preferred alternative upon which no one had an opportunity to comment. It is the federal action as a whole that may have an adverse effect on the natural and/or human environment, not the constituent elements of various possible federal actions. Indeed, it is not possible to provide comments on separate pieces of possible federal actions because the alternatives set forth in the DEIS are not divided up into components, and, therefore, it is entirely unclear how Reclamation would select "elements or variations" of the identified alternatives in order to come up with a sixth, and heretofore unidentified, alternative. The "shuffle and deal" approach to identifying the preferred alternative is contrary to NEPA and Interior's NEPA-implementing regulations.

If Reclamation selects one of the alternatives set forth in the DEIS as its preferred alternative, the Tribe should nevertheless have an opportunity to provide additional comments at the time when Reclamation makes its selection because then the Tribe will be able to determine whether the preferred alternative is in its best interests. The Tribe acknowledges that the regulations do not require Reclamation identify a preferred alternative in the DEIS,³ nevertheless based on the

³The applicable regulation provides the following:

This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment . . . and the Environmental Consequences . . . , it should present the environmental

Regional Director
April 25, 2007
Page 4

Secretary's trust responsibility, the Tribe should be given the opportunity to comment once Reclamation has selected its preferred alternative well in advance of release of the final environmental impact statement. If, on the other hand, Reclamation devises as its preferred alternative a new alternative from pieces of the existing alternatives in the DEIS, Reclamation should reissue a new draft environmental impact statement for public comment, since there will have been no public comment on that federal action.

We appreciate the opportunity to comment on the DEIS and look forward to providing comments on the preferred alternative once it has been either selected or formulated.

Sincerely,


M. Catherine Condon

MCC/dav

cc: Council Member Jimmy Newton
Jim Formea
Chuck Lawler

impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

....

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

From: Richard Spotts [spotts@infowest.com]
Sent: Monday, April 30, 2007 6:43 PM
To: strategies@lc.usbr.gov
Subject: My comments on Colorado River DEIS

April 30, 2007

Dear Bureau of Reclamation officials:

Please accept this letter with my comments on the Colorado River water allocations DEIS.

I strongly support and urge you to adopt and implement the "Conservation Before Shortage Alternative". I believe that this alternative best reflects the changes that are needed to address exponential human growth combined with declining water supplies. Communities in the arid Southwest must learn to be much more aggressive and effective in achieving water conservation and reclamation. Groundwater recharge is also preferable to reservoir storage because of the latter's excessive evaporation losses. Water pricing must reflect true market demands and delivery costs, without any subsidies. Greater use of tiered water pricing can reward conservation and punish wasteful practices.

With global warming and the prospects for more severe droughts, the continuation of status quo management of the Colorado River would be irresponsible and dangerous. Strong reforms are needed now, in anticipation of the more serious shortages to come. We need only to look at Australia this year to see what the future may hold for us.

Please have the foresight and courage to implement these necessary reforms in the public interest.

Thank you very much for your consideration.

Sincerely,

Richard Spotts
1125 W. Emerald Drive
St. George UT 84770-6026
spotts@infowest.com

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Phoenix, AZ 85072-2025
(602) 236-5812
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E-mail: jfsullivan@srpnet.com

4/30/07
BCO-1000

JOHN F. SULLIVAN
Associate General Manager
Water Group

April 27, 2007

Acting Regional Directors
US Bureau of Reclamation
Attention: BCOO-1000
Lower Colorado Region
P.O. Box 61470
Boulder City, NV 89006-1470

Re: Notice of Availability of and Notice of Public Hearings for the Draft Environmental Impact Statement ("EIS") for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead

Dear Ms. Harkins and Mr. Walkoviak:

The Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association (collectively referred to herein as "SRP") submit their comments on the Draft EIS for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (collectively referred to herein as the "Guidelines").¹ We appreciate the opportunity to offer these comments and we hope that they will be useful to the Bureau of Reclamation ("Reclamation") in adopting Guidelines and preparing the final EIS.

Statement of Interests

SRP is a multi-purpose federal reclamation project authorized and constructed under the Reclamation Act of 1902, 43 U.S.C. § 371 *et seq.* Pursuant to various contracts with the United States, SRP operates the Project works, which include, among other things, seven reservoirs and dams on the Salt and Verde rivers in central Arizona, and East Clear Creek in Northern Arizona. Water is impounded in these reservoirs by SRP for subsequent delivery to municipal, industrial and agricultural water users in the Phoenix metropolitan area, where over half of the state's population resides. SRP holds the water rights for these reservoirs, and for the downstream uses they supply, pursuant to the state law doctrine of prior appropriation, as well as federal law.

SRP has a significant economic interest in Colorado River water supplies and the power generated at the Lower Basin dams. SRP's surface water supplies from the Salt and Verde Rivers are susceptible to drought and must be conjunctively managed by SRP with the groundwater beneath its 250,000-acre service area. Central Arizona is currently experiencing its twelfth year of drought, with several years during this period being some of the driest in more than 100 years of recorded history. Under these circumstances, the availability of Colorado

¹ 72 Fed. Reg. 9026 (February 28, 2007).

River water and power is critical to the continued economic well-being of SRP, its members and the municipalities that SRP serves in Central Arizona.

The drought of the past twelve years has made it necessary for SRP to purchase excess CAP water to supplement its diminishing Salt and Verde River water supplies, along with pumping maximum amounts of groundwater. Excess CAP water is also the principal source of supply for underground storage and groundwater savings projects in Central Arizona in which SRP has an interest. SRP contracts for and delivers agricultural priority CAP water for use on SRP agricultural lands. Additionally, through the Arizona Power Authority and Western Area Power Administration, SRP purchases large amounts of Parker-Davis and Hoover power each year and distributes the power to its customers in Central Arizona. SRP is therefore strongly interested in the outcome of this EIS process, which has the potential to markedly affect the availability of Colorado River water and power to Central Arizona during times of shortage.

SRP is also the operator of the Navajo Generating Station (“NGS”), a coal-fired power generation plant in Page, Arizona, which provides power to Reclamation for the operation of the CAP, and to power consumers throughout Arizona, Nevada and California. Water needed for the operation of NGS is supplied from Lake Powell. The dependability of this supply is essential to SRP’s continued operations of NGS. SRP is therefore interested in any criteria that the Secretary may ultimately adopt for coordinated operation of Lake Powell and Lake Mead, which may affect deliveries of water supplied to NGS.

Comments on the Interim Guidelines

I. SRP Supports the Basin States Proposal as the Preferred Alternative, as it Represents the Consensus of the Major Users of Water and Power Resources in the Lower and Upper Basins.

SRP supports the adoption of the Basin States Alternative, as modified by the suggestions of the Basin States in their comments on the draft EIS (Basin States’ Proposal”), as the Preferred Alternative in the Final EIS. As a consensus approach developed by the Lower and Upper Basin States, the Basin States Proposal minimizes impacts to the largest number of users of the resources described in the Draft EIS. The Basin States Proposal provides a mechanism for promoting the conservation of water in the Lower Basin, while at the same time minimizing shortages in the Lower Basin and avoiding the risk of curtailment of water uses in the Upper Basin.² As a balanced approach to the management of Colorado River resources, which takes into consideration and reflects the interests of and effects on various categories of resource users, the Basin States Proposal is the ideal Preferred Alternative.

The Basin States Proposal likewise provides users of mainstream Colorado River water within the United States with a greater degree of certainty regarding future amounts of annual water deliveries during times of drought and under low reservoir conditions.³ In the past, the threat of litigation has been a barrier to reaching a dependable, long-term resolution of the issues

² Draft EIS, p. 2-8.

³ A heightened degree of predictability of water supplies was a chief purpose of the proposed action, as described in the Draft EIS. See Draft EIS, p. 1-3.

related to the allocation of Lower Basin water supplies during shortage conditions, and the equalization of water levels in Lake Powell and Lake Mead. Because the Basin States Proposal was developed by consensus, the risk of future litigation challenging the adoption or implementation of this alternative by Reclamation is greatly reduced. Moreover, the Basin States Proposal can be implemented relatively quickly following the conclusion of the NEPA process, without further action by Reclamation; consequently, its adoption would provide more immediate predictability to water and power users regarding the management of Colorado River water supplies.

II. The Final EIS Should Individually and Comparatively Analyze the Impacts of Each of the Alternatives, When Added to the Cumulative Impacts of Past, Present and Reasonably Foreseeable Future Actions, With Respect to Each of the Resources Identified.

To ensure a complete analysis supporting the selection of the Basin States Proposal as the preferred agency alternative, the cumulative impacts analysis should be amplified in the Final EIS to more comprehensively address: (1) the impacts of past, present and reasonably foreseeable future actions with respect to each of the resources considered; (2) the impacts of each alternative when added to the impacts of other past, present and reasonably foreseeable future actions; and (3) objectively quantifiable impacts or the reasons why that is infeasible.⁴

1. Impacts of Past, Present and Reasonably Foreseeable Future Actions

The cumulative impacts section of the Draft EIS should include an evaluation of the cumulative impacts of past, present and reasonably foreseeable future actions, not part of the proposed action, on each of the resources considered. Presently, this section does not undertake a systematic analysis of these impacts. For example, it is not clear that the “closely related projects”⁵ mentioned in the text include both present and reasonably foreseeable future actions. Even as to present actions, the list of “closely related projects” is not exhaustive. Other closely related actions for which cumulative effects should have been evaluated include, for example, the Arizona water bank, the forbearance agreement between Arizona and Nevada, and municipal drought management plans entailing the use of CAP water. The cumulative impacts section also omits any discussion of the impacts of past actions on each of the resources considered in the Draft EIS. Finally, the cumulative impacts section does not consistently and methodically consider the impacts of each and all of the actions identified on each resource considered. The analysis of cumulative impacts in the Final EIS should be amplified to include this discussion and analysis.

2. Impacts of Each Alternative, When Added to the Cumulative Impacts of the Past, Present and Reasonably Foreseeable Future Actions Identified

⁴ The Cumulative Impacts section of the Draft EIS begins on page 5-6. It appears, however, that the section heading and possibly some portion of the preliminary text were inadvertently omitted from the document. The Final EIS should remedy this error.

⁵ Draft EIS, p. 5-7.

The cumulative impacts analysis in the Final EIS also should consistently address and compare the totality of the effects of each alternative, when added to the cumulative effects of past, present, and reasonably foreseeable future actions, on the environment. As presently written, the section omits any discussion of the impacts of each alternative, when added to the cumulative impacts, on each of the resources considered. The cumulative impacts section in the Final EIS should be revised to systematically provide this comparative analysis. We believe such a comparison will demonstrate that implementation of the Basin States Proposal would minimize cumulative impacts, as the States and individual resource users have already considered and attempted to minimize the effects of the Basin States Proposal when added to the impacts of their individual related actions.

3. Objective Quantification of Impacts or an Explanation of the Reasons Why an Objective Quantification of Impacts is Infeasible

Finally, the cumulative effects analysis should evaluate the impacts of each of the alternatives, plus cumulative effects, in objectively quantifiable terms, or provide an explanation of the reasons why this cannot be done. The draft cumulative impacts analysis does not refer to objective data in analyzing impacts. If the impacts described cannot be quantified in objective terms, the Draft EIS should affirmatively state this, and offer an explanation of the reasons why such quantification is infeasible.

III. The Final EIS Should Clarify the Relationship Between the Existing Federal Programs and Activities on the Lower Colorado River, Particularly the Lower Colorado River Multi-Species Conservation Program, and the Alternatives Considered in the Draft EIS With Respect to Endangered Species Act (“ESA”) Compliance.

Section 1.8 of the Draft EIS describes five “related actions” that, along with other projects discussed later in Chapter 5, “may have a cumulative impact on the environment.”⁶ These include, among others, the Lower Colorado River Multi-Species Conservation Program (“LCR MSCP”). Regarding the LCR MSCP, Chapter 1 of the Draft EIS properly notes that this program “provides ESA compliance for specific covered federal actions and non-federal activities under ESA Sections 7 and 10,” including the implementation of water shortages in the Lower Colorado River Basin.⁷ The Draft EIS then states that, “[t]o the extent that the shortage strategy adopted by the Department is within the coverage provided by the LCR MSCP, it is anticipated that adoption of that element of the proposed federal action would not require further ESA compliance.”⁸ In seeming contrast to these statements, Chapter 5, Section 5.1.1 of the Draft EIS broadly describes the obligation of Reclamation to consult on proposed action under Section 7 of the ESA, as follows:

⁶ Draft EIS, p. 1-23.

⁷ Draft EIS, p. 1-26.

⁸ *Id.*

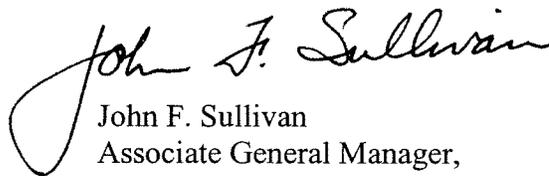
Adoption of the proposed action by the Secretary is a discretionary federal action and it is, therefore, subject to compliance with the ESA. Reclamation will request a species list from the FWS and subsequently prepare a biological assessment to address the potential effects of the proposed federal action on listed species. Once a preferred alternative is identified, the BA will be finalized and formal consultation will be initiated, if appropriate. Reclamation and the FWS will consult during 2007, with the intent of completing a BO for inclusion in the Final EIS.⁹

Section 5.1.1 does not refer to the LCR MSCP or the ESA coverage already provided to certain categories of federal actions under the program, including the implementation of shortage guidelines within certain parameters. As written, Section 5.1.1 could be interpreted as acknowledging a comprehensive obligation on the part of Reclamation to consult on all aspects of the proposed action, even those previously covered as part of the LCR MSCP. Section 5.1.1 should be modified in the Final EIS to clarify the more narrow focus of Reclamation's obligation to consult, and the relationship between ESA coverage already in place under the LCR MSCP and any additional coverage needed for the proposed action.¹⁰

Conclusion

SRP appreciates the opportunity to present these comments on the proposed Guidelines, in response to Reclamation's Federal 28, 2007 Federal Register notice. We hope that these comments will be useful to Reclamation in adopting Interim Guidelines and in selecting the preferred agency alternative and concluding the NEPA process. For the reasons urged in Part I of this letter, we strongly urge Reclamation to adopt the Basin States Proposal as the Preferred Agency Alternative. If you have any questions or need further information regarding any of the matters discussed in these comments, please do not hesitate to contact us.

Very Truly Yours,



John F. Sullivan
Associate General Manager,
Salt River Project

⁹ Draft EIS, p. 5-1.

¹⁰ As any biological opinion drafted by FWS to discuss effects of the proposed action would be included in the Final EIS, it would be both feasible and appropriate for the EIS to more fully explain the relationship between the LCR MSCP, the proposed action and any other related actions on the river, with respect to ESA compliance.

Cc: Rick Gold, Regional Director, Upper Colorado Regional Office
Herb Guenther, Director, Arizona Department of Water Resources
Bob Johnson, Commissioner, U.S. Bureau of Reclamation

CITY OF TEMPE WATER UTILITIES DEPARTMENT



Mailing Address: P.O. Box 5002
Delivery Address: 255 East Marigold Lane
Tempe, Arizona 85280

Date: April 27, 2007

Pages to follow: 3

To: Regional Director - U.S. Bureau of Reclamation - Lower Colorado Region

Fax No.: (702) 293-8156

From: Eric Kamienski, Water Resources Administrator
Tempe Water Utilities Department

Comments: City of Tempe comments on Draft EIS -
Colorado River Interim Guidelines For Lower Basin
Shortages and Coordinated Operations For Lakes
Powell and Mead.

City of Tempe
255 E. Marigold Lane
Tempe, AZ 85281



Water Utilities Department

April 27, 2007

Via Fax (702) 293-8156 and Regular Mail

Regional Director
US Bureau of Reclamation
Lower Colorado Region (Attention: BCOO-1000)
PO Box 61470
Boulder City, NV 89006-1470

Re: Draft Environmental Impact Statement (EIS) - Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead, February, 2007

Dear Regional Director:

The City of Tempe ("City") provides these comments to the Draft EIS for Colorado River Interim Guidelines for Lower Basin Shortage and Coordinated Operations for Lakes Powell and Mead (72 Fed. Reg. 9026, February 28, 2007).

The City has previously provided comments to the U.S. Bureau of Reclamation during the scoping process for the Notice of Intent to Prepare the Draft EIS (November 30, 2005). The City has also participated in an Arizona stakeholder group process with the Arizona Department of Water Resources, the Central Arizona Project and Colorado River water users in Arizona to work together on development of shortage criteria for Lower Basin shortages that manage and minimize the impacts to Colorado River water users from shortage declarations by the Secretary of the Interior. This process led to recommendations that were adopted within the Seven Basin States Preliminary Proposal Regarding Colorado River Interim Operations (letter to the Secretary of the Interior, dated February 3, 2006).

The City has reviewed the Draft EIS for Colorado River Interim Guidelines for Lower Basin Shortage and Coordinated Operations at Lakes Powell and Mead. The City supports selection of the Basin States Alternative as the preferred alternative in the Final EIS and implementation of the Basin State Alternative through the Final Record of Decision.

Importance of Central Arizona Project Colorado River Water Supplies

The City of Tempe provides water service to a population of over 171,000 people in our water service area, in addition to a large concentration of industries, businesses, and educational institutions in the heart of the greater Phoenix metropolitan area. Colorado River water delivered to Tempe via the Central Arizona Project (CAP) is a significant component of Tempe's water resources portfolio. Tempe holds CAP contracts for Municipal & Industrial (M & I) priority water, and lesser amounts of Indian lease water and non-Indian agricultural priority water.

Some portions of the Tempe water service area lack rights to use Salt River Project water supplies, such as the adjacent Town of Guadalupe, to which Tempe has provided water service for over 30 years. Colorado River water delivered by the CAP is the single most important water supply to meet the needs of these areas, and Colorado River reservoir operations are fundamental to the CAP supply. The CAP has a junior priority under the Law of the River, and all CAP water users have a significant interest in the management strategies being developed by the U.S. Bureau of Reclamation.

The Basin States Alternative

The Basin States Alternative, developed through extensive negotiations between the seven Colorado River Basin States, is a compromise alternative acceptable to each of these States. The Basin States Alternative is the only alternative that does not require additional statutory authority and is the only alternative that can be implemented immediately after the Secretary of Interior issues the Final Record of Decision. The Basin States Alternative offers the most certainty to Colorado River water users in the Lower Basin, and the unique level of collaboration between the seven Colorado River Basin States should be considered in selecting this as the preferred alternative.

Other Alternatives in the Draft EIS

The "No Action" and "Water Supply" Alternatives do not propose operational changes that will address future reservoir shortage conditions due to prolonged drought conditions, and do not provide for coordinated operation of Lakes Powell and Mead.

The "Conservation Before Shortage" Alternative includes an intentionally created surplus through forbearance, but no funding mechanism for this intentionally created surplus exists. The "Conservation Before Shortage" Alternative also contains elements that would require additional statutory authority and necessitate amendment of the 1944 Treaty with Mexico.

The "Reservoir Storage Alternative" contains provisions for intentionally created surplus that protects water storage for power generation and recreation to the detriment of downstream water users. These provisions are contrary to the Law of the River which dictates that operation of the system for water supply purposes has a higher priority than operation of the system for hydropower generation purposes. This alternative also

contains tiered shortage criteria that significantly increase the water shortages for the Lower Basin compared to the Basin States Alternative (maximum shortage volume of 1,200,000 AF/year to the Lower Basin under the Reservoir Storage Alternative compared to a maximum shortage volume of 600,000 AF/year under the Basin States Alternative). The shortage criteria in the Reservoir Storage Alternative place nearly all the burden of future shortages on the Lower Basin water users in favor of maximizing hydropower generation capacity, contrary to the Law of the River. The Basin States Alternative is far more balanced in its provisions to further consult with the Secretary of the Interior for any potential reservoir operations requiring Lower Basin shortages greater than 600,000 AF/year.

Summary

The Basin States Alternative provides Lower Basin Colorado River water users with the greatest degree of certainty of any of the alternatives. The Basin States Alternative is the result of a unique collaborative effort on the part of all seven Colorado River Basin States. The City of Tempe supports selection of the Basin States Alternative as the preferred alternative in the Final EIS and implementation of the Basin State Alternative through the Final Record of Decision.

Thank you for the opportunity to comment on the Draft EIS for Colorado River Interim Guidelines for Lower Basin Shortage and Coordinated Operations for Lakes Powell and Mead.

Sincerely,

Eric S. Kamienski

Eric Kamienski
Water Resources Administrator
Tempe Water Utilities Department

cc: Herb Guenther, Director, Arizona Department of Water Resources

From: 3sonora73 [3sonora73@cox.net]

Sent: Friday, March 02, 2007 1:40 PM

To: strategies@lc.usbr.gov

Subject: Comment on Colorado River drought plan

Dear Sir or Madam,

I have not had time to read the plan but I did want to comment on it.

I live in the Phoenix area. The future water shortage situation has been talked about for years here but nothing has been done about it. Arizona and Nevada are two of the biggest growth areas in the nation. Arizona has the added burden of illegal aliens pouring in along with the people from other parts of the U.S.. This crazy growth has to stop or at least slow down. We are going to have enough problems sharing the water with the existing population.

I realize this is a state issue, not a federal issue, but nobody from the governor on down wants to talk about it I guess because growth means money to the various state and local governments and their buddies. The builders are just going nuts out here and absolutely nobody wants to

slow them down. The Phoenix area could someday be the biggest ghost town in the world.

The repercussions would be devastating. Is there any way to talk some sense into these representatives from Arizona to start looking into growth control?

Thanks for letting me rant,
Totally Frustrated Mike

THE SPARKS LAW FIRM, P. C.

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River management strategies or decisions which would increase the frequency of shortages or the participation of others in the shortage pools, or reduce the long-term reliability of the Tribe's CAP water by declarations of a "shortage," and other schemes which manipulate "credits", storage rights, and exchanges must be avoided. Several of the alternatives described in the DEIS present shortage sharing scenarios and "conservation" schemes that will substantially reduce the reliability of the Tribe's CAP water supply and will materially injure the right of the Tribe to receive this water supply under its CAP Contract.

Section 3.21 of the Tribe's CAP Contract defines a "**Time of Shortage**" as "**a calendar year for which the Secretary determines that a shortage exists pursuant to Section 301(b) of the Basin Project Act, such that there is not sufficient Project Water in that year to supply up to a limit of 309,828 acre feet of water for Indian uses, and up to a limit of 510,000 acre feet of water for non-Indian Municipal and Industrial uses.**" Under the Tribe's CAP Contract, deliveries of Project Water to the Tribe in Times of Shortage may be reduced or terminated in accordance with Section 4.9 of the Tribe's CAP Contract.

It is paramount that the Secretary of Interior ("Secretary") reject the proposed management strategies for Lake Powell and Lake Mead that would threaten the security or breach the Tribe's CAP Contract or breach the Secretary's trust responsibility to properly manage and protect the Tribe's CAP water as an Indian Trust Asset.

The Tribe has always understood the terms of the CAP Contract relating to shortage to mean that delivery of CAP water depends upon the physical situation of the Colorado River and not upon a scheme of management in which some are benefitted while others are not. The Secretary owes the Tribe a trust duty to refrain from implementing management strategies which interfere with the Tribe's contractual rights and expectation of delivery of CAP water and funding for construction and the

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payment of OM&R from the power generation revenues and Lower Colorado River Basin Development Fund under its CAP Contract.

The following is a list of the Tribe's primary objections and concerns regarding the DEIS:

1. The DEIS Does Not Discuss How Shortages of the Natural Flow of the Colorado River Will Be Shared from Year to Year Between the Upper Basin and Lower Basin States

The DEIS provides no discussion as to how shortages in the annual natural flow of the Colorado River which is not adequate to meet the 15 m.a.f. of apportionments to the Upper and Lower Basin States will be imposed as between the Upper Basin and Lower Basin. The DEIS must first discuss how shortages would be borne between the Upper Basin and Lower Basin, before discussing the allocation of water that is stored in the Colorado River reservoirs. The Secretary must first look to the annual natural flow of the River to provide the water supply that is to be apportioned.

Thereafter, the Secretary may look to the water which is stored in the reservoirs in the Lower Basin to provide the supplemental supply to meet the apportionment entitlements of contractors in the Lower Basin States.

2. The DEIS Cannot Lawfully Place Precedence Upon the Nevada Intake at 1050' Elevation Over the Requirements that the Tribes Receive Their Entitlements from the Colorado River to Provide for Their Permanent Tribal Homelands

The DEIS should not place precedence and limit considerations regarding the mark at which shortages will be declared based upon the location of the State of Nevada's intake at the 1050' elevation in Lake Mead. While Nevada may deepen its intake facilities into Lake Mead to mitigate impacts when a shortage is declared on the River, the Tribes have very few, if any, alternatives to enable them to obtain access to Colorado River water or replacement water supplies to provide for their Permanent Tribal

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Homelands. The DEIS should consider alternatives for shortage based upon the Secretary's obligation to protect and make available the Colorado River water supply to the Tribes, and to the long term reliability of the water supply for all contractors with rights to the River. The man-made intake facilities at Lake Mead for Nevada may be readily altered to correspond with the possibility of shortage, and thus, should be of little or no concern with regard to the management of the River, as opposed to those who have no other options.

The Law of the River does not allow the Lower Basin water supply to be managed primarily to serve one State or interest over another. The sole beneficiary of the Lake Mead scenario is Nevada, to the detriment of others, including the CAP Tribes. The alternatives must be adjusted to provide scenarios with equal consideration of the importance of the delivery of CAP water to the Tribe.

3. The DEIS Erroneously Assumes that the Tribe is a Subcontractor of the Central Arizona Water Conservation District

The DEIS erroneously assumes and conveys that the Tribe is a subcontractor of CAP water under the Central Arizona Water Conservation District ("CAWCD"), a political arm of the State of Arizona. *See* Appendix E at E-1, showing the CAWCD as the entitlement holder for all CAP water. On the contrary, the Tribe has a **direct** contract with the Secretary of Interior for the delivery of its CAP water, and the United States has a **direct** obligation to deliver this water pursuant to the Tribe's contract. *See* Tribe's CAP Contract. This misstatement should be corrected throughout the DEIS.

Since the Tribe is a direct contractor with the Secretary, it must be treated on a co-equal level with that of CAWCD and other contractors in other states with direct contracts with the Secretary to receive the waters of the Colorado River. CAWCD also has a direct contract with the Secretary for the delivery of the non-Indian portion of CAP water and an obligation to repay the cost of the non-Indian portion of the CAP project to the United States.

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The Tribe's water right to CAP water is a portion of Arizona's equitable apportionment under *Arizona v. California* that must be directly protected by the Secretary as an Indian Trust Asset for the Tribe. The State of Arizona should have an interest in protecting the Tribe's CAP water supply. However, the State's conduct in this matter shows that its sole interest and effort is focused upon committing the Tribe's CAP water supply to non-Indian use, preventing the Tribe from ever using the "wet" water to which the Tribe has a right under its CAP Contract. Its conduct also indicates that the States seeks to take and keep the financial benefits from the CAP water to which the Tribe is entitled, which is presently diverted and unlawfully "converted" to use by the State and other non-Indian interests.

4. Use of Reservoirs to Store and Deliver "Conserved" Colorado River System and Non-System Water

The DEIS, at ES-2, lists one of the purposes of the proposed federal actions as to "[a]llow for the storage and delivery, pursuant to applicable federal law, of conserved Colorado River system and non-system water in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions." While this purpose appears to be reasonable and foresightful, the method of implementing this purpose, as proposed in certain of the DEIS alternatives, will result in a wholesale taking of the Tribe's CAP water, and allow the Tribe's water to be committed to use by others. This is a violation of the Law of the River and of the Tribe's CAP water rights which are Indian Trust Assets that must be protected by the Secretary.

"The States [in the Basin States Alternative] propose that the Secretary develop a policy and accounting procedure concerning augmentation, extraordinary conservation, and system efficiency projects, including specific extraordinary conservation projects, tributary conservation projects, introduction of non-Colorado River system water, system efficiency improvements and exchange of non-Colorado River System water. The accounting and recovery process would be referred to as

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'Intentionally Created Surplus' consistent with the concept that the States will take actions to augment storage of water in the Lower Colorado River Basin. The water would be distributed pursuant to Section II(B)(2) of the Decree and forbearance agreements between the States. The ICS credits may not be created or released without such forbearance agreements." (Appendix at J-11).

However, substantially all, if not all, of these "policy and accounting procedures" are based on a fiction. All of the Colorado River water, natural flow, storage, and surpluses are committed by contracts with the Secretary and the Treaty with the Republic of Mexico. There are no unallocated or uncommitted amounts of Colorado River water possible, including the fictional "Intentionally Created Surplus." The fictional "Intentionally Created Surplus" is actually an attempt to convert the water that is committed to some other use to another entity.

Due to its position, the State of Arizona has a particular interest in "conservation" methods for the Colorado River that would preclude the Arizona Tribes from participation. Once the same Colorado River water is labeled "conserved" by a particular party, the party (such as the State of Arizona) will preclude the Tribe from participating in the benefits of the "conserved" Colorado River water.

The use of the "conserved" water that will be stored in the reservoirs and claimed exclusively by the State of Arizona (which thereby excludes Arizona Indian Tribe access) will reduce and manipulate the amount of water from the Colorado River and its storage that could be used by the Tribe from year to year to fulfill their CAP water orders. This manipulation of the Colorado River water source to preclude its lawful use by the Tribe is a violation of the Law of the River and a violation of the Tribe's CAP Contract.

Furthermore, the States cannot enter into forbearance agreements or shortage sharing agreements amongst themselves where the rights of Arizona Tribes to their share of Arizona's equitable

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apportionment to the Colorado River would be manipulated by the States. *See e.g.* Appendix J-10 (“Arizona and Nevada will share shortages based on a shortage sharing agreement. In the event that no agreement has been reached, Arizona and Nevada will share shortages in accordance with the 1968 Colorado River Basin Project Act, the Decree, other existing law as applicable, and the Interstate Banking Agreement between Arizona and Nevada parties.”). The participation of the Arizona Tribes in the forbearance agreements or any other agreements between Arizona and other States, as co-equal water users of Arizona’s equitable apportionment, is required by the Law of the River, and by the direct contracts of the Tribes with the Secretary of Interior.

The proposed alternatives must be revised so that any “conservation” regime used to reduce the potential conditions which may cause or enable the Secretary to make declarations of shortage on the Colorado River, or used to provide additional waters to Arizona (including Arizona Tribes), include all Arizona CAP Tribes in the mutual “wet water” and financial benefits of such schemes. Otherwise, the Tribes will be subject to significant injury as a result of the manipulation schemes in violation of the Law of the River, and the contractual and constitutional rights of the Tribes.

5. The DEIS Does Not Discuss the Legal Authority for Allowing Credits for Fallowed Lands, Canal Lining and Other “Conservation” Measures

The DEIS does not discuss any legal authority which would permit the States to obtain credits for “fallowing” lands, canal lining and other measures undertaken to purportedly “conserve” Colorado River water. Under the law in Arizona, other western States and Federal Reclamation Law, the waters “conserved” by the fallowing of lands and the lining of canals is committed back to the stream flow to be used by the next water user in the system. *See Phelps Dodge Corp. v. Ariz. Dep’t of Water Res.*, 2005 Ariz. App. LEXIS 108 (Ariz. Ct. App. 2005) (observing that water rights in Arizona are “. . . usufructory, to ensure a maximum beneficial use of Arizona’s water resources.”) (citing *Clough v. Wing*, 2 Ariz. 371, 379-81, 17 P. 453, 455-56 (Terr. 1888)); *Salt River Valley Water Users’ Ass’n v. Kovacovich*, 3. Ariz.

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App. 28, 411 P.2d 201, 203 (Ariz. Ct. App. 1966) (“any practice, whether through water-saving procedures or otherwise, whereby [a diverter] may in fact reduce the quantity of water actually taken inures to the benefit of other water users and neither creates a right to use the waters saved as a marketable commodity nor the right to apply same to adjacent property having no appurtenant water rights.”); Kinney, *Treatise on the Law of Irrigation and Water Rights and the Arid Region*, (2nd Ed. 1912), §782, 783.

The DEIS must discuss what legal authority would permit the States to commit “conserved” water to inure to the benefit of a single party or particular beneficiary, rather than for the use and benefit of **all** users in the Colorado River system under the Law of the River. Furthermore, if such a “conservation” scheme could be lawfully implemented and used to benefit particular parties or beneficiaries, the Tribes must be permitted to participate, and the Secretary must fully support and protect the Tribe’s full and unfettered participation and receipt of benefits.

6. Use of Surplus by Basin States

The Basin States Alternative also proposes a different scheme for the distribution of surplus. For instance, the Basin States Alternative would “[d]istribute Arizona’s share to surplus demands in Arizona including off stream banking and interstate banking demands.” *See* Appendix at J-9. The problem is that based upon historical and present practices by Arizona (which is charged with protecting the entire State’s equitable apportionment from the Colorado River, including that which is used by the Tribes) the State would nevertheless use this surplus for the benefit of non-Indians, to the exclusion of the Tribes. In fact, the State of Arizona is engaging in this conduct now, through, *inter alia*, the Arizona Water Banking Authority and the interstate water banking agreement with Nevada. The Secretary’s approval of the Basin States Alternative would put the weight of authority of the United States behind these wrongful acts by the State of Arizona.

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The Secretary should not select the Basin States Alternative or any other alternative, where it would exclude Tribes from participation in the arrangements made on the Colorado River during times of surplus. In addition, the Secretary must include the Arizona Tribes and ensure that the Arizona Tribes receive the mutual benefits of surplus on the Colorado River.

7. The DEIS Does Not Provide Adequate Details Regarding the Basin States Proposal for Accounting Policy and Procedure for Intentionally Created Surplus

The DEIS does not provide sufficient detail regarding the alternatives for the accounting policy and procedure that the Secretary would implement for Intentionally Created Surplus or any other “conserved” water. Without this detail, it is unclear as to how the CAP Tribes would be permitted to participate in the ICS and the impact of the uses of the ICS upon the Tribes. This should be corrected in the DEIS.

8. The Arizona Water Settlements Act, P.L. 108-451 Is Not Yet Enforceable

The DEIS’ underlying assumption and reliance upon the AWSA as defining the characteristics of the CAP is premature. *See* DEIS at 4-81. The AWSA is not yet enforceable and may never become enforceable. If so, the DEIS or Final EIS intended to be published by December 2007, will require immediate revision and further public comment. In addition, the existing DEIS should include an impact analysis which compares the impacts under the present characteristics of the CAP with the impacts under the characteristics which would exist if the AWSA were to become enforceable.

9. There Is No Misunderstanding As To How Shortages Are To Be Distributed Between CAP Indian and M&I Priority Users Within the CAP

The DEIS states that “prior to the enactment of the AWSA, there were differing views as to how mild shortages would be distributed between CAP Indian and M&I priority users.” (DEIS at 4-124). While there may be so-called “differing views”, the Tribe’s CAP Contract is very clear regarding how

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shortages are to be implemented as to the Tribe. Furthermore, the AWSA did nothing to clarify how such shortages are shared, because the Tribe's CAP Contract cannot be affected or modified by the AWSA. The DEIS and its underlying assumptions must be changed to reflect and analyze the true nature of the Tribe's CAP entitlement and how shortages within CAP will be implemented as to the Tribe.

10. The DEIS Does Not List or Discuss the Impacts to the Tribe's CAP Entitlements

The Tribe has a contractual right to CAP water under a direct contract with the United States. As reflected in the DEIS, the Tribe's CAP Contract could be used to satisfy the Tribe's *Winter's* or federal reserved water rights. Since this water could be used in this way, the DEIS should analyze the impact of the shortage criteria as an Indian Trust Asset. In addition, since the Tribe has a direct contract with the United States on a co-equal basis with CAWCD, the DEIS should analyze the impact of shortage sharing upon the Tribe separately from any analysis of shortages which pertains to other CAP water users.

11. The DEIS Fails to Adequately Discuss or Analyze the Impacts of the Alternatives Upon the Tribe

The DEIS finds that "No vested water right of any kind, quantified or unquantified, including federally reserved Indian rights to Colorado River water, rights pursuant to the Consolidated Decree or Congressionally-approved water right settlements utilizing CAP water, will be altered as a result of any of the alternatives under consideration." DEIS at 4-123. This is incorrect.

The DEIS erroneously attempts to delineate between a paper water right and wet water. These are one in the same. Whether or not the paper water right becomes wet water is determined by whether or not the law is followed and whether or not the Secretary undertakes actions (or fails to take actions) which diminish the reliability or injure the ability of the Tribe to receive its wet water. The implementation of shortage sharing criteria which would hinder the Tribe's ability to receive the water to

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which it is entitled, and the selection of an alternative which would permit waters to be “conserved” and committed to exclusive use by certain parties, alters the reliability of the Tribe’s entitlement to CAP water. The DEIS cannot distinguish between the effect of the alternative upon the legal entitlement of the Tribe versus the effect upon the Tribe’s receipt of the wet waters pursuant to the legal entitlement.

The DEIS proposes alternatives which will impact and diminish the reliability of the CAP water supply and thus, injure the ability of the Tribe to receive the wet water to which it is entitled. The Secretary is charged with the responsibility to implement shortage sharing criteria which protect the Tribe’s receipt of the CAP water supply which is an Indian Trust Asset. The DEIS must analyze the impacts upon the Tribe’s receipt of the water to which it is entitled, and not merely make a statement that the alternatives will have “no effect” upon the Tribe’s legal entitlement to the CAP water. A policy which proclaims no impact on the Tribe’s legal entitlement which results in **no wet water** to fulfill its entitlement is deceptive and amounts to invidious discrimination. The DEIS’ avoidance of discussing the true impact of the alternatives upon the Tribe must be corrected.

12. The DEIS Fails to Discuss How “Voluntary” Shortages Would Be Implemented and Their Resultant Effect Upon the Tribe and Its Right to CAP Water

The DEIS mentions that certain “voluntary” shortages could be implemented. DEIS at 4-12.

However, the DEIS is unclear as to who would agree to such voluntary shortages. The Secretary cannot permit the State of Arizona to decide whether or not it would enter into a voluntary shortage, where such shortage would diminish the reliability of the Tribe’s CAP water. This is simply unlawful. Furthermore, the Secretary cannot allow other states to enter into “voluntary” shortages and alternative River management schemes that would create conditions where the Tribes were required to bear shortages that would not otherwise be borne, absent such voluntary agreements or schemes. The DEIS fails to discuss

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this in any detail. The DEIS should be revised for clarity and to provide a meaningful analysis of the impacts of the proposed "voluntary" shortages to the Tribe's receipt of its CAP water supply.

13. The DEIS Fails to Discuss the Potential Impact of Any of the Alternatives on Water Quality or Quantity to Which the Republic of Mexico is Entitled Under Treaty

The DEIS fails to discuss the ongoing and potential environmental impacts of any of the alternatives on the Colorado River delta, including wet lands, and the fact that the delta is one of the primary marine nurseries supporting aquatic life, fisheries and migratory wildlife subject to international treaties, and the ultimate fish production and annual catch allocated among countries of the Pacific Rim. The alternatives proposed by the DEIS, with the increase in use of the Colorado River proposed by the alternatives, including the Basin States Alternative, will undoubtedly impact the delta.

Please continue to keep this Firm on your mailing list for all future communications and documents related to this matter.

Yours Truly,

THE SPARKS LAW FIRM, P.C.



Robyn L. Interpreter

RLI/rli

cc: Ivan Smith, Chairman
Kenny Davis, Vice-Chairman
Council Members



MARCH 01, 2007

DEAR SIR/MADAM

MANDATORY DESERT
LANDSCAPE ON ALL NEW
HOMES & OFFICE BUILDINGS.
OR OTHER NOT REQUIRING
WATER USE, IN PHOENIX.

I UNDERSTAND
THAT "TUCSON" HAS THIS
IN PLACE

THANK YOU,
Raymond

Raymond Trancynger
4430 E Le Marche Ave
Phoenix AZ 85032-4278



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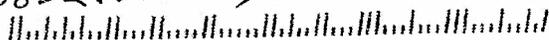
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COLORADO RIVER INTERIM GUIDELINES FOR LOWER BASIN SHORTAGES
AND COORDINATED OPERATIONS FOR LAKE POWELL AND LAKE MEAD

- - - - -

KEY ASPECTS OF DRAFT ENVIRONMENTAL IMPACT STATEMENT

CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING

Q&A SESSION

Phoenix, Arizona
April 4, 2007
11:20 a.m.

REPORTED BY:
RABIN' MONROE, RMR, CR
CERTIFIED REPORTER
CR #50653

PREPARED FOR:
BUREAU OF RECLAMATION

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CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING - 4/4/07

CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING

BE IT REMEMBERED that the Central Arizona Project Tribal Consultation Meeting was taken before RABIN' MONROE, RMR, CRR, Certified Reporter #50653, in and for the County of Maricopa, State of Arizona, on Wednesday, April 4, 2007, commencing at 11:20 a.m., at 2 ARIZONA CENTER, 400 North 5th Street, Phoenix, Arizona.

A P P E A R A N C E S

BUREAU OF RECLAMATION:

TERRY FULP
NAN YODER
JOHN JAMROG
DEBBY SAINT
STEVE HVINDEN
JAYNE HARKINS
RANDY CHANDLER
CAROL ERWIN
BRUCE ELLIS
DAVE JOHNSON
AMBER CUNNINGHAM
BRIAN PARRY

TRIBAL REPRESENTATIVES:

JOHN PETERSEN, Tohono O'odham Nation
VERNON J. SMITH, Tohono O'odham Nation
JONATHAN JANTZEN, Tohono O'odham Nation
GLORIA THOMAS, Sif Oidak, Tohono O'odham Nation
ALEX BLAINE, Sif Oidak, Tohono O'odham Nation
TERRY O. ENOS, Ak-Chin Indian Community
ROBERT PALMQUIST, Ak-Chin Indian Community
ALLEN GOOKIN, Gila River Indian Community
ANN MARIE CHISCHILLY, Gila River Indian Community
GARY PARKER, GRIC Irrigation and Drainage District
MARGARET VICK, ITCA
DR. CAROLE KLOPATEK, Fort McDowell Yavapai Nation
AMY HUESLEIN, BIA

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P R O C E E D I N G S

(Presentation by Terry Fulp.)

GARY PARKER: Excuse me. I'm sorry. My name is Gary Parker. I'm with the Gila River Indian Irrigation and Drainage District.

This comes up a lot, so I'm going to go ahead and ask it now and hopefully it'll help later on.

In regard to interstate agreements and storage -- excuse me. Not storage -- but conservation agreements that are already in place, have those been addressed and are they being accounted for as part of the conservation agreements that -- that you're talking about?

Because it reads like it's future, but there's already quite a few agreements that are in place that could have a major impact on the different alternatives.

So are those existing agreements in the model or -- well, how are they considered?

TERRY FULP: Sure. Let me give you a couple of examples, and then maybe if there's others you want to ask us specifically, please feel free to.

For instance, those transfer agreements that were a part of the QSA that were really the QSA between IID San Diego. Those are all in the -- the model. It assumes those are in place based on that Exhibit B it was called in

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1 the Water Delivery Agreement. So all of those are in place.

2 GARY PARKER: Right.

3 TERRY FULP: We've got a couple of demonstration
4 programs where some water's exchanging hands. Those are
5 in -- they're just two-year periods. They're in place.

6 With regard to, like, interstate-banking type
7 arrangements, the model assumes that -- that all the Lower
8 Division States take their full entitlements each year,
9 their apportionment.

10 So there is an -- an assumption that Nevada, for
11 instance, puts 10,000 acre-feet of water in Arizona's bank
12 for future delivery. That's -- we just assume it's come out
13 of the system that -- in that year and Nevada took their
14 full apportionment.

15 That's some examples. Are there others you'd like
16 to ask specifically about?

17 GARY PARKER: No. If -- if they're all -- if --
18 so they're all being addressed equally?

19 TERRY FULP: Yeah, they're pretty much all being
20 addressed. And the only caveat is that interstate banking,
21 which has -- tends to be unused apportionment in a given
22 year that gets put in the bank, and we just assume that
23 everyone's used their full apportionment. That's the only
24 caveat, I'd say. Otherwise, I think they're all in that
25 we're aware of that are currently in place.

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1 GARY PARKER: Okay. Okay.

2 TERRY FULP: Okay. Yes?

3 ANN MARIE CHISCHILLY: I'm Ann Marie Chiscilly,
4 C-H-I-S-C-H-I-L-L-Y. I'm from the Gila River Indian
5 Community, as well.

6 My question is -- he was speaking of past
7 agreements. With the Basin States Agreement, there's a
8 forbearance agreement that's coming in.

9 Has that been considered, as well?

10 TERRY FULP: It has, and let me maybe explain in
11 the -- in the way it's considered.

12 ANN MARIE CHISCHILLY: Okay.

13 TERRY FULP: If an entity were to conserve water
14 and store it in Lake Mead and then take delivery of it at a
15 later date, that extra delivery under the Basin States
16 Proposal would be called intentionally created surplus.

17 ANN MARIE CHISCHILLY: Oh.

18 TERRY FULP: And the forbearance agreement is
19 really an agreement saying other folks who have a u- --
20 rightful use to surplus water would agree to forebear their
21 right to take that entity's conserved water as a surplus.
22 That's really the gist of it.

23 So that was quite easy for us to put in. We just
24 assume if you created the ICS, you'd get the ICS.

25 ANN MARIE CHISCHILLY: Okay.

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1 TERRY FULP: Okay? Any other questions? All
2 right.

3 (Presentation by Terry Fulp resumed.)

4 TERRY FULP: Carole, maybe this is part of my
5 understanding of your question. And so what we did is we
6 posed year-to-year sequences assuming 53 would hit in 2008.
7 And so the model does track it year to year and sees Mead go
8 really -- fairly low; right? And that's one out of 99
9 scenarios.

10 Does that take -- does that help us communicate
11 maybe a bit?

12 DR. CAROLE KLOPATEK: Yeah, it --

13 TERRY FULP: Yeah, another scenario is let's
14 assume this is trace 20 -- let me add that up real quick.
15 So that would be about 1927. If we assume 1927's sequence
16 hit in 2008, here's what would happen. There's the period
17 of low flows of the '30s. Make sense? So we do that 99
18 times.

19 Yes.

20 ALLEN GOOKIN: Allen Gookin, Gila River Indian
21 Community. Spelled G-O-O-K-I-N.

22 Then I think the confusion is that
23 tenth-percentile line, for example, does not represent any
24 future sequence; it merely represents the worst or the --
25 the tenth percentile in each of the varying sequences, which

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1 kind of as a user limits its applicability to understand
2 what's really going on.

3 Like trace 47 I can look at and say, "Okay. I
4 understand that, that during the drought we really get hurt,
5 and then once we get some wetness, our problems go away."

6 TERRY FULP: Uh-huh.

7 ALLEN GOOKIN: Is it possible to get those traces
8 either on disk or --

9 TERRY FULP: Oh, yes. Yes. We would love to send
10 'em to you, actually. No, we actually do have disks already
11 prepared that include all this modeling output with the
12 individual traces in a spreadsheet Excel format.

13 And we have a little add-in tool that's very
14 simple for you, if you've ever used an Excel add-in. You
15 can add it in and you can look at these to your heart's
16 content.

17 ALLEN GOOKIN: Bless you.

18 TERRY FULP: Yes, we'd be glad to take that down
19 and ...

20 NAN YODER: We have a set with us today.

21 TERRY FULP: We have one set with us. You win.

22 ALLEN GOOKIN: I asked first.

23 TERRY FULP: But no, we would really absolutely
24 welcome if any of you would like to look at these lovely
25 detail, it is available.

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1 So you -- you raise good questions. And maybe now
2 I'm understanding, Carole, your question before is that
3 the -- the issue is -- these are good things to look at,
4 don't get us wrong, but in terms of getting this massive
5 data crunched down enough to move it down through all the
6 resource areas, we aggregate the 99 runs.

7 And there's lots of ways we could aggregate them,
8 or -- one is, as you point out, you could sample and just
9 take one. You could take the median of all of 'em. That's
10 what we call the 50th percentile. You can take the 10th,
11 the 90th. You do average standard dev- -- you know, you
12 can do all the standard statistical manipulations on the
13 data.

14 Our purpose for picking 10, 50, 90 is, number one,
15 to crunch it down to facilitate the comparison between the
16 alternatives and no action. Because if you look at too many
17 traces, it just gets too overwhelming.

18 And then the second thing is to give some idea of
19 what the chances are of Mead getting to certain levels.
20 Does that kind of make sense?

21 So some people might say median is a
22 representation of the most likely scenario. The way I would
23 really like to describe it is in any given year, 2020, you
24 know that Mead is about 50 percent likely to be above 1100.

25 Now, what's that mean? There's a chance it's

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1 gonna be above or below; right? We don't mean to say
2 there's no chance of being in either side.

3 So let's take a different one. Let's take ten
4 percent, 2020, it's about 1042. So what we'd say is there's
5 about a ten percent chance in 2020 that Lake Mead would be
6 at or below 1042. There's a 90 percent chance it's at or
7 above 1042.

8 See, it -- it's tough because you got this such
9 big uncertainty, and our goal here is to quantify it and
10 facilitate a comparison.

11 A single trace analysis is absolutely a valid
12 analysis, don't get us wrong, but this tends to be the
13 analysis that's been taken on the system and people are
14 fairly used to.

15 Did that help explain it? Sounds like --

16 ALLEN GOOKIN: Quite a bit.

17 TERRY FULP: Okay. Any questions? I know that's
18 a lot of hydrologic speak coupled with statistics, so ...

19 (Presentation by Terry Fulp resumed.)

20 ALLEN GOOKIN: Allen Gookin, Gila River Indian
21 Community.

22 TERRY FULP: Thank you.

23 ALLEN GOOKIN: Is that in the report? And if so,
24 where?

25 TERRY FULP: It is. It would be section 4.3.

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1 ALLEN GOOKIN: Because I have looked and looked --

2 TERRY FULP: I can probably find the page number
3 for you. Steve brought his. I know there's lots of graphs
4 and it's tough to find 'em all, but I think I can find this
5 one for you.

6 Oh, and it's actually 4.4. Sorry.

7 NAN YODER: While Terry is looking for that, I'm
8 gonna point out that one of the things we did do in the
9 document was list all our tables and figures in -- in the
10 table of contents. And so if you went and looked for the
11 probability of Lower Basin shortages in the table of
12 contents, it's gonna get you to that, as well. But we'll
13 find the page at the moment.

14 TERRY FULP: So I believe -- thanks. I could have
15 been smart and looked up in the index. Appreciate that,
16 Nan.

17 But in any event, I think on page 4, dash, 94
18 there is the plot, the probability of involuntary and
19 voluntary Lower Basin shortages.

20 Do you see that plot?

21 ALLEN GOOKIN: Yes, I do. Thank you.

22 TERRY FULP: Yes. You're welcome.

23 (Presentation by Terry Fulp resumed.)

24 TERRY FULP: And that's it. Okay. Any other
25 questions here? At this point, then, I'm gonna turn it over

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1 to Steve. I really appreciate your --

2 Yes.

3 GARY PARKER: I'm sorry. I do have one question.
4 Gary Parker from Gila River.

5 One of the things that you identified right up
6 front is that there is not a preferred alternative. What
7 the probability of everything that you're presenting -- I
8 don't -- I don't really know how to ask this.

9 With all of the probability that goes into this,
10 if you have the Upper Basin and the Lower Basin and you
11 don't have a preferred alternative that's going to be
12 identified as to how you operate and how -- I guess you
13 sequence the model not only through 2020 thousand -- or
14 2027, but then further into the future, who's going to
15 decide and how are you going to decide what that preferred
16 alternative is?

17 Because I guess in my mind that affects the
18 probability of everything that you're doing here if -- if
19 you don't have some kind of a baseline that you're -- you're
20 starting with because probability then just goes everywhere.
21 It's a -- you know, it's a scatter.

22 And -- and I don't -- I didn't see that anywhere
23 in the document. I don't see anything that leads you
24 towards that assumption. It's only, "If this is
25 considered."

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1 Well, we as individuals and/or we as groups, we
2 can't make very many decisions based on that because there's
3 too many other factors that are going to affect that and
4 it's going to change probability considerably.

5 TERRY FULP: Okay. Yes, that's a good question.
6 Let me -- let me give a couple of hopefully pertinent
7 statements and maybe I can address it exactly.

8 Our view here was that we didn't believe we knew
9 enough about people's in- -- had enough people -- public
10 input to really say one of these is really the best
11 alternative. So our -- the way it's gonna work is we
12 appreciate your comments over this 60-day period telling us
13 what you think a preferred alternative should look like. So
14 not only do you -- you tell us many other things, I'm sure,
15 but that's one of the things for sure we want to hear.

16 Give you an example. Let's say the shortage
17 strategy under the Basin States Alternative starting at
18 2075, as we mentioned, at 400,000 is an acceptable shortage
19 strategy, but perhaps the assumption with regard to the
20 conservation element ought to be bigger.

21 And so that's a comment we would absolutely listen
22 to if with heard that, that, "Hey, you take this element
23 out, this alternative, match it with this element and that
24 alternative and formulate a preferred alternative in that
25 way."

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1 And so that's what we're allowing in our process,
2 is to hear from you all so that we then can sit down, digest
3 all of that input, and come up with what we think is the
4 most reasonable preferred alternative.

5 Yes.

6 ALLEN GOOKIN: Allen Gookin, Gila River Indian
7 Community.

8 If we go through -- or if you go through and you
9 come up with a hybrid alternative, will there be a new draft
10 EIS put out for comment, or will you just go to the final?

11 TERRY FULP: We're planning to go to the final.
12 Now, what we will do, though, is we'll disclose that
13 preferred alternative to you. We won't wait till the final.
14 We'll disclose it, and we can certainly have additional
15 consultations to -- if there's questions or explanation as
16 needed.

17 So our plan right now is we'd take essentially the
18 month of May to digest the comments and come up with a
19 preferred alternative, and then we'd publish it. That's our
20 current plan.

21 Now, in the final, then, what you would see is
22 pa- -- I think this is the way it'll work out. I mean, I --
23 I'm not 100 percent sure. But I think you'd see these
24 alternatives with the preferred alternative if it's
25 different from one of these five, or if it's different from

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1 one of the four action alternatives. You'll actually see a
2 new alternative that's the combination, mix and match, so
3 it's really clear what it -- what it -- its impacts are.

4 Does that at least make sense? I'm not asking you
5 to agree, but it makes sense --

6 ALLEN GOOKIN: No, I understand.

7 TERRY FULP: -- what we're up to? Yeah. Okay.

8 So we really very much welcome your -- your
9 comments about each of these alternatives, and particularly
10 what they've assumed with regard to each of the four
11 elements. Okay? All right.

12 Well, I'm gonna turn it over to Steve, then.

13 NAN YODER: Okay. And I'm gonna do a few process
14 things with you again while Steve's getting all hooked up.

15 Has everyone signed the sign-in sheet? Yeah?
16 We're gonna avail upon Amy to make copies so you can walk
17 away with it; all right?

18 The other thing is we talked about several
19 documents that were available -- and we do have a winner
20 here -- but I -- I can get these to you very quickly. If
21 anyone else is interested in the modeling data, the
22 allocation modeling data, what Steve will be talking about
23 shortly, or the Colorado River Simulation Model, we can have
24 that overnight mailed to you. All I'm gonna need is your
25 name, address, and a street mailing address for it; okay?

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1 So don't leave without giving that to myself or to
2 Amber -- can you stand up a second, Amber? Either one of us
3 before you leave, make sure we get your name and address,
4 and we'll make sure it's mailed to you overnight mail so you
5 have it this week; okay?

6 Yes, sir.

7 JONATHAN JANTZEN: What about a paper copy of the
8 draft EIS?

9 NAN YODER: You want something to hold down that
10 desk, we will oblige. And again, if you can just give us
11 your name and address, or if you want to point it out on the
12 sign-in sheet. We just -- we need to have a street address,
13 so if you give me a PO Box, it might be a little hard to get
14 it to you; okay? But we'll make sure that you have it by
15 the end of the week; okay?

16 Anyone else?

17 MARGARET VICK: John, check with Cathy Wilson.
18 She has them.

19 NAN YODER: Okay. But we will get it to you this
20 week, so it's not like you'll be waiting two weeks for it.

21 In the information that was sitting on the table
22 up front when you walked in -- hopefully you picked this
23 up -- this is our fact sheet. We update it periodically.
24 This is the current one. You'll notice here that it gives a
25 lot of information about how to submit your comment, by

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1 when, April 30th, and we also have our e-mail account
2 where you can communicate with us.

3 If -- if you walked away today and said, "Oh, I
4 forgot to give Amber and Nan my business card and I wanted
5 something," if you send us an e-mail, we open those e-mails
6 every day. If you talk to me on Saturday, I'm gonna read
7 'em. Okay. And we'll get you the information.

8 So if you send us an e-mail asking something,
9 we'll get back to you as soon as we can; okay? So that
10 information's on this fact sheet.

11 Yes, ma'am.

12 DR. CAROLE KLOPATEK: What's going to happen this
13 evening as opposed to what's happening today?

14 NAN YODER: This evening is the official public
15 hearing on the draft EIS. Again, we'll have a court
16 reporter present, we'll do an introduction on the project
17 and some background, and then we open it up to submitting
18 verbal comments on the draft EIS that are recorded for the
19 record.

20 A verbal comment or a written comment have the
21 same weight in our process. We're just coming to people,
22 giving them the opportunity to express something to us
23 verbally. If you send us the same comment in writing, we
24 also take that into account.

25 Tonight's a public hearing at which we're taking

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1 your comments, and we're doing that here today, as well,
2 because this is now on the transcript and will go into our
3 record, and as a draft EIS is issued, all your comments are
4 addressed in that, so you will find your comment in our
5 document when it's issued this September.

6 Did I answer your question?

7 DR. CAROLE KLOPATEK: Well, when will you have the
8 record for the public comment this evening available?

9 NAN YODER: When will I have the record of the
10 public comments?

11 DR. CAROLE KLOPATEK: Yeah. This evening.

12 NAN YODER: This evening?

13 DR. CAROLE KLOPATEK: This evening's meeting.

14 NAN YODER: Okay. All the comments that we
15 receive by April 30th will be up and available on our
16 project Web site by May 4th. Okay? Those are comments.
17 Just the comments. How we address them, that will be
18 available in September. Okay?

19 DR. CAROLE KLOPATEK: Is there any way of getting
20 this evening's comments earlier than that, prior to the
21 30th cutoff deadline?

22 NAN YODER: No. Sorry. I -- sorry. It won't be
23 possible. But we will have them up -- all comments up and
24 posted by May 4th; okay? The comment period closes
25 April 30th. If we were to start putting comments up

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1 piecemeal, it would become very confusing for people as to
2 what's been posted, so ...

3 DR. CAROLE KLOPATEK: Just a transcript of the
4 evening's -- can't even get that?

5 NAN YODER: It'll be available on our project Web
6 site May 4th. It's a comment.

7 Today's transcript, as soon as we talk with the
8 court reporter, we'll -- we can make that available to you
9 as soon as we can.

10 DR. CAROLE KLOPATEK: Why the difference?

11 NAN YODER: This is a Tribal Consultation Meeting,
12 and so we're feeding back to you what we've heard today;
13 okay? You'll have comments in here that become part of the
14 record. But this is specifically a meeting held for the
15 Tribes. And so we will feed back the transcript to you as
16 soon as we have it.

17 DR. CAROLE KLOPATEK: Okay.

18 NAN YODER: Are there any other questions? Okay.

19 I'm sorry, Steve.

20 (Presentation by Steve Hvinden commenced.)

21 ALLEN GOOKIN: Allen Gookin, Gila River Indian
22 Community.

23 In the Mexico Treaty is there a provision that
24 makes them accept a pro-rata share of shortages? I was --
25 I'd been unaware of that. I'm not denying it; I'm just not

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1 aware of it.

2 STEVE HVINDEN: We have made a -- a modeling
3 assumption here that Mexico shares one-sixth in the shortage
4 in the Lower Basin, and that's based simply on the ratio of
5 1.5 million for Mexico over the total Lower Basin
6 entitlements of nine million acre-feet.

7 ALLEN GOOKIN: Does -- do you know does Mexico
8 agree with this assumption?

9 MR. FULP: No, they do not.

10 ALLEN GOOKIN: What happens --

11 JAYNE HARKINS: But they do agree -- they do agree
12 that this treaty does say we share in the shortages, and you
13 need to define "extraordinary drought" and the pro-rata
14 share. And they do agree that they need to take some
15 portion of shortages.

16 Now, as to percentages or what you do or how you
17 calculate it, there's no agreement yet.

18 NAN YODER: Jayne Harkins, H-A-R-K-I-N-S. Sorry.

19 And we have another question over here.

20 MARGARET VICK: Margaret Vick.

21 It's my understanding that it's Basin-wide, not
22 just so Lower Basin, for the calculation of shortages to
23 Mexico. The extraordinary drought is throughout the entire
24 Basin, so there has to be a reduction in Upper Basin use as
25 well as Lower Basin use before the reduction can go to

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1 Mexico. That's just my understanding of the treaty.

2 TERRY FULP: I think we might add -- that's
3 certainly one interpretation of it.

4 MARGARET VICK: Yeah.

5 MR. FULP: The issue here in -- in some sense is,
6 again, this large amount of storage which is the benefit to
7 the system. And so for instance, if you looked Basin-wide,
8 we've been under a fairly severe drought in seven years.
9 But because of the -- we walked into the drought with full
10 reservoirs and we've got so much storage, we've been able to
11 continue to meet the delivery requirements in the
12 Lower Basin, including to Mexico.

13 You could argue that it was a Basin-wide pretty
14 severe drought, maybe even extraordinary, and certainly some
15 of the Upper Basin users have incurred shortages during this
16 period of time, primarily because they're up high in the
17 system and they don't have the benefit of large amounts of
18 storage above them.

19 So one interpretation could be, yes, if it's
20 Basin-wide, then Mexico might in fact be -- have to share
21 when those Upper Basin users get shorted, even though
22 Lake Mead is not in a Lower Division State shortage. You
23 can see kind of the complicated issues that can evolve out
24 of -- out of that.

25 And we might want to just add that obviously this

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1 is a U.S. action only. Secretary of the Interior is -- will
2 take an action here that will apply to the seven Basin
3 States, you know. I mean, the -- and water users within
4 those states. It does not include Mexico.

5 There's a parallel process through the
6 State Department that will -- that is ongoing, albeit a bit
7 slowly, perhaps, but it's ongoing, and that would be the
8 process that a Mexico shortage -- water-delivery-reduction
9 decision would be made.

10 And again, we could have assumed other modeling
11 assumptions. These happen to be the ones we -- we chose.
12 And they are consistent between all the alternatives.

13 STEVE HVINDEN: Okay. So the way to think of a
14 stage-one shortage, that essentially is a shortage where
15 California is not participating yet in the shortage because
16 there's still post '68 water in -- in Arizona that hasn't
17 been totally shorted out.

18 And the model then incorporates these ratios that
19 are -- and this is shown in I think Appendix G, pages six
20 and seven, the calculation of this.

21 But Nevada's consumptive use would be reduced by
22 3.33 percent; Mexico by 16-and-two-thirds, and Arizona by 80
23 percent.

24 (Presentation by Steve Hvinden resumed.)

25 MR. FULP: Steve, should we add there that this is

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1 clearly one of the modeling assumptions and that's all it
2 is. We have to assume something for future use, and these
3 are the schedules that ADWR provided us.

4 I think the rationality behind this -- and please
5 anyone that wants to add on this -- is essentially this
6 would in some sense show a worse case to Priority Four. And
7 we're trying to analyze it in that kind of a worse-case
8 sense so people such as yourself can get an idea of -- of it
9 in terms of that.

10 By no means are we saying this is exactly how it's
11 gonna pan out in the future. It's just another one of the
12 modeling assumptions, and we took the opinion of ADWR on
13 this one.

14 STEVE HVINDEN: The model does rely on buildup
15 schedules for all the users, including the Tribes, so I
16 would encourage you to look in the back of Appendix G.
17 There is buildup schedules for everyone, including the
18 Tribes. Take a look at your buildup schedule, see if you're
19 comfortable with it. It -- welcome your comment on that.

20 (Presentation by Steve Hvinden resumed.)

21 JONATHAN JANTZEN: I have a question. My name's
22 John Jantzen.

23 Where does the word "entitlement" come from? How
24 are you using the term here?

25 STEVE HVINDEN: We use the word "entitlement" to

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1 refer to -- to three mechanisms for someone to -- to be --
2 be allowed to take Colorado River water.

3 We have -- first of all, the first form of water
4 entitlement is a Section Five Water Delivery Contract with
5 the Secretary of Interior.

6 The second form of an entitlement is a decreed
7 right, such as the five Tribes located along the lower
8 Colorado River. Their right is decreed in the Supreme Court
9 Decree of Arizona/California.

10 And then there's a third class of what we call a
11 Secretarial Reservation, where the Secretary has -- has
12 reserved the water for, for example, Davis Dam. Or there's
13 I think a hundred-foot allocation for uses at the dam that
14 has -- isn't used a lot. But there are some small
15 quantities of water where the Secretary has essentially
16 instead of contracting with himself has -- has essentially
17 reserved water for use in Federal facilities.

18 JONATHAN JANTZEN: Okay.

19 STEVE HVINDEN: Yes.

20 DR. CAROLE KLOPATEK: Carole Klopatek,
21 Fort McDowell Yavapai Nation.

22 Could you just -- I'm trying to remember. Going
23 through priority and what percentage of water is the
24 allocation next to that based on the priority? I see take
25 one, two, three, and four, it -- that's approximately, what,

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1 20 percent? Is that about right?

2 STEVE HVINDEN: I'll take a stab at it. I don't
3 have my cheat sheet with me here. But for example,
4 Priority Four, that is all of CAP, which has approximately
5 1.5 million-acre-feet, plus 165,000 acre-feet of contracts
6 with folks along the river.

7 Priority One, I know that the Tribes in total for
8 all three states have about close to a million acre-feet
9 of -- of -- of entitlement, and I believe most of that is
10 in -- most of that is in Arizona.

11 The -- for example, the -- the Colorado River
12 Indian Tribe, I believe their allocation is
13 662,000 acre-feet for that one Tribe.

14 So generally speaking in Arizona, you know, it's
15 1.5 million acre-feet up here in Priority Four, and then 1.3
16 for the -- for the pre-1968 Rights.

17 And if we -- we have tables. I believe they're in
18 the Appendix G. They may not be summed up by priority.
19 We'd be happy -- we have a listing back in the office of --
20 of all the entitlements by priority, and we'd be happy to
21 get that to you.

22 DR. CAROLE KLOPATEK: Thanks. I was just trying
23 to remember.

24 STEVE HVINDEN: Yeah.

25 JONATHAN JANTZEN: Did you say that all of CAP was

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1 a Priority Four?

2 STEVE HVINDEN: Well, there is one -- yeah, with
3 one exception. There are -- and I'll get to that a little
4 bit later.

5 There's -- as part of the Ak-Chin Settlement and
6 as part of the Salt River Settlement, the Secretary went
7 down to the Yuma area and acquired rights to Priority Three
8 water for those settlements, and that is part of the -- what
9 we consider to be the overall CAP supply.

10 JONATHAN JANTZEN: Okay

11 (Presentation by Steve Hvinden resumed.)

12 STEVE HVINDEN: Any questions? Yes, sir.

13 ALEX BLAINE: Alex Blaine, Tohono O'odham Nation.

14 Could you explain that 8,000 acre-feet shortage
15 again? Or kind of how you said? I didn't catch that.
16 Between Gila River and Tohono O'odham.

17 STEVE HVINDEN: Okay. In this particular block of
18 water, the -- that is shared on the basis of 800 acre-feet
19 by the Tohono Nation, and the balance of approximately
20 32,000 -- slightly less than 32,000 is -- is absorbed by the
21 Gila River Indian Community.

22 And -- and this stems from the fact that I believe
23 it's the Chuichu portion of the -- of the nation had an
24 allocation to 8,000 acre-feet of irrigation water, and ten
25 percent of that was -- was subject to an earlier reduction.

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1 So ten percent of 8,000 equals the 800 acre-feet.

2 ALEX BLAINE: Okay. Yeah, 'cause I -- I -- the
3 reason I ask that is because that is our area and kind of
4 pertains to our area, so I wanted to know about it. Thank
5 you.

6 STEVE HVINDEN: So you aren't being asked to make
7 the more than an 800-acre-foot reduction. You're taking a
8 little bit sooner than you would have otherwise absent this
9 settlement.

10 ALEX BLAINE: Okay.

11 DEBBY SAINT: Steve, if you don't mind, maybe I'll
12 just explain that dispute. I'm Debby Saint, Bureau of
13 Reclamation.

14 In the 1980 CAP contracts, and I might get the
15 numbers wrong, it defines the time of shortages when M&I
16 water is 510,000 acre-feet and Indian water is at
17 343,000 acre-feet. And I might be slightly off on the
18 numbers, but I think I'm right.

19 Anyway. And so the 343,000 acre-feet was the full
20 amount of the Indian contracts. The Indian contracts that
21 were for -- that the allocations were for irrigation water,
22 which is the Sif Oidak area of Tohono and Gila River Indian
23 Community, Salt River Indian Community, and Ak-Chin.

24 All of those contracts said those -- those
25 irrigation waters get reduced before those -- those

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1 amount -- those contracts get reduced about ten -- by ten
2 percent before it's shared equally among all the Tribes. So
3 that water goes off the top first, that ten percent in -- in
4 the Sif Oidak area. For Gila River Indian Community it was
5 25 percent, but ...

6 But the cities thought, and they had some good
7 reasons for thinking, that that ten percent was the first
8 water that went away before the cities took any shortages.
9 The -- we thought the United States' position was that
10 the cities were reduced from 640,000 acre-feet down to
11 510,000 before the -- the Tribes took any shortage. And so
12 there was a -- a long dispute over that.

13 And what the compromise that was agreed to was is
14 that the -- that piece, that ten percent, and the
15 130,000 acre-feet of M&I water would go down at the same
16 rate so that those two would go down and then you'd share
17 shortages. And so that was kind of the basis of the
18 compromise.

19 STEVE HVINDEN: I have a slide coming up that
20 might help, but ... illustrate that a little better.

21 (Presentation by Steve Hvinden resumed.)

22 STEVE HVINDEN: Under the Cliff Dam Replacement
23 Water Arrangement, several of the Phoenix area cities
24 presently obtain the right to take as non-Indian
25 agricultural priority water 47,103 acre-feet of water as

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1 having that NIA priority. In the year 2044 they have the
2 right, and everyone expects them to exercise that right, to
3 convert that 47,103 acre-feet from NIA priority water to M&I
4 priority water.

5 So what you see here in 2044 is that 47,103
6 shifted from here (indicating) from these NIA, down to NIA
7 priority.

8 So there's more -- more water in this Priority Two
9 block or CAP Two block after 2044. And if that affects
10 the -- you'll see when we get to how the share of Indian
11 water is defined in the project. It's set up
12 pre-2044/post-2044 under a formula that's in the -- the
13 Arizona Water Settlement Act.

14 (Presentation by Steve Hvinden resumed.)

15 STEVE HVINDEN: And in effect, this is where the
16 compromise occurred. The Feds were successful essentially
17 in negotiating where this 36 percent here (indicating) was
18 extended through this particular point (indicating) from --

19 So as you go from 801 to 853, that 36 percent
20 still holds. Then essentially between here and
21 here (indicating), and I might say right here (indicating),
22 the Tribes get 310,000 acre-feet of the 343,000 acre-feet.

23 So essentially this line (indicating) was plotted
24 between there, and essentially the full block of water for
25 Tribes and the cities of 982,000 acre-feet.

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1 And a mathematical equation was -- or linear
2 relationship was ascribed to that. And for those of you who
3 have looked at the Settlement Act, it's a fairly complicated
4 mathematical formula in here. But this line here
5 (indicating) is really what -- what is being defined in
6 the -- in the Settlement Agreement.

7 (Presentation by Steve Hvinden resumed.)

8 MARGARET VICK: Steve, I have -- I have a question
9 back on that -- Margaret Vick -- under that last slide.

10 Under the doomsday scenario where there --

11 STEVE HVINDEN: I shouldn't have used that word.

12 MARGARET VICK: I know. It's catchy.

13 Would -- where there's still water available to --
14 higher-priority water for Ak-Chin and Salt River down at the
15 very bottom --

16 STEVE HVINDEN: Mm-hmm.

17 MARGARET VICK: -- is there going to be sufficient
18 water in the canal to get that delivered?

19 STEVE HVINDEN: I am gonna defer that question to
20 our operators, cause I have -- I have to say I've wondered
21 about that myself, and Randy --

22 RANDY CHANDLER: God only knows. I -- I don't
23 know how that would really work. I mean, that would be
24 difficult to move that small amount of water in a canal.

25 MARGARET VICK: Yeah.

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1 RANDY CHANDLER: But ... so I don't know how that
2 would play out in reality.

3 MARGARET VICK: Okay.

4 RANDY CHANDLER: I'm assuming at that point there
5 would be water-bank water coming back into the canal, other
6 ways of getting water back in the canal to where that could
7 be done.

8 Assume the water bank is -- is firming some of the
9 M&I water, you know, there would be ways to get water back
10 in the system that would be a mixture of that small amount
11 of water. So I think it could be practical.

12 MARGARET VICK: Okay. On some kind of a exchange
13 basis so it might come out of the bank or something or --

14 RANDY CHANDLER: No, it would come from the
15 Colorado River.

16 MARGARET VICK: It would come all the way from the
17 Colorado River to Ak-CHin?

18 STEVE HVINDEN: Sure.

19 RANDY CHANDLER: Sure.

20 MARGARET VICK: Okay. And the bank water would,
21 as well?

22 RANDY CHANDLER: I'm just saying they might
23 recover some water out of ground-water bank in Arizona to
24 put back in the canal where the canal was more functioning
25 like a full canal. That would be my idea.

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1 (Presentation by Steve Hvinden resumed.)

2 STEVE HVINDEN: Part of your handouts include two
3 sets of tables; one that shows that various shortage volumes
4 and various years. It shows the -- the overall magnitude of
5 shortages on kind of an aggregate basis between Mexico and
6 each of the Lower Division States.

7 And then there's a second set of tables that is
8 particular to the Tribes. And you can similarly look at
9 those tables and see what the model is -- output of the
10 model for reductions in deliveries to the Tribes under
11 various levels of shortages and -- and years.

12 I'm not going to go through that. I invite you to
13 look at those numbers and -- and, you know, send us comments
14 if you -- something looks not right to you or look at your
15 buildup schedules.

16 I want to say that we still have some refinements
17 to make to our -- our model. We'll be doing those along
18 with the comments we receive from -- from the public, but --

19 For example, a -- upon the Ak-Chin Indian
20 Community, they -- the Community has a three-tiered
21 entitlement, if I can use that terminology. What we have in
22 the model right now is 75,000 acre-feet for the Community.
23 We -- we -- we know of course that under some conditions the
24 Community has a right to 85,000 acre-feet of water, and
25 under a shortage condition under the Settlement it's

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1 required delivery of 72,000 acre-feet.

2 So we have to refine the model to include the
3 72,000 and 85,000 additions, so ... adjustments like that
4 that we will do here in the next month.

5 Yes, sir.

6 TERRY ENOS: Terry Enos. Ak-Chin.

7 I guess that's what you were talking about here
8 briefly as a possible amend to that CAP contract?

9 DEBBY SAINT: Right. As part of the Arizona Water
10 Settlement Act we will be offering contract amendments to
11 all of the CAP Tribes, and -- and we'll be -- we'll have a
12 longer detailed meeting to explain that, and -- and -- maybe
13 on an individual basis, because we'll actually --

14 TERRY ENOS: Right.

15 DEBBY SAINT: -- for most of them have the
16 contract amendments, and we'd like to probably meet with you
17 and -- and talk about the complications that are associated
18 with your CAP contract.

19 TERRY ENOS: I just wanted to bring that up
20 because it's for the record that's what we --

21 DEBBY SAINT: Right.

22 TERRY ENOS: -- briefly discussed over there on
23 the side.

24 DEBBY SAINT: Right. Yeah. Yeah.

25 TERRY ENOS: Thank you.

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1 DEBBY SAINT: So -- but that's -- it's kind of
2 related to this process, but it's separate from this
3 process. So we'll be -- we'll be doing that. But I saw
4 you, and I just wanted to not have you be surprised when you
5 got the letter.

6 STEVE HVINDEN: And when you say "all," it's --
7 it's all but the -- the Gila River Indian Community and
8 Tohono. It's the other Indian Communities --

9 DEBBY SAINT: Yeah, there's seven. There's seven
10 Tribes.

11 STEVE HVINDEN: Okay. Well, that finishes my part
12 of the presentation. Terry has a couple of closing slides
13 on processes/schedule, and take more questions now or --

14 Yes, sir.

15 ROBERT PALMQUIST: Steve, Bob Palmquist,
16 Strickland and Strickland for Ak-Chin.

17 Did I understand you correctly that you are going
18 to make additional refinements or changes to the model
19 reflecting Ak-Chin's slightly different entitlement
20 situation?

21 STEVE HVINDEN: Yes.

22 ROBERT PALMQUIST: Okay. When could we anticipate
23 seeing those changes coming in?

24 STEVE HVINDEN: As soon as we -- I guess the day
25 after the public comment period we will gather up the

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1 comments, we'll look at all of the comments we got about the
2 model as well as this particular elements, and -- Amber and
3 I will be working probably around the clock for a couple of
4 weeks to -- to -- to, you know, consider the changes and --
5 and -- and make those that we feel are warranted.

6 But our goal is to try to as close as we can
7 reflect the -- the contractual arrangements; the terms and
8 conditions of the Water Rights Settlements.

9 It was simply a -- in this case we -- we -- we --
10 we had the 75,000 acre-foot model in kind of a normal-year
11 condition, but we hadn't -- we -- we -- we didn't have
12 the -- we just ran out of time in our process to -- to
13 incorporate the 10,000 acre-foot additional water in the --
14 and the -- and the shortage condition where the entitlement
15 is 72,000.

16 ROBERT PALMQUIST: Thank you.

17 STEVE HVINDEN: Yes.

18 ALLEN GOOKIN: In the output -- Allen Gookin.
19 Gila River Indian Community.

20 In the output on the Hoover Dam annual releases in
21 particular, I didn't understand -- you show a very smooth
22 curve for the -- the releases. Obviously the very left-hand
23 side is flood releases and the right-hand side is the
24 extreme shortages. And I would have expected to see
25 stairsteps of 400,000/600,000 under the various shortage

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1 alternatives.

2 Where am I going wrong? I'm talking about page 4,
3 dash, 58.

4 TERRY FULP: So what that is, they're in there,
5 but they're kind of washed out. This is one of those --
6 it's a -- what we call a accumulative distribution, so we've
7 taken all of the 99 possible runs for each of the years over
8 the 53-year period and thrown them all in a bin --

9 ALLEN GOOKIN: Right.

10 TERRY FULP: -- and ranked 'em.

11 ALLEN GOOKIN: But I would have expected --
12 I'm sorry.

13 TERRY FULP: No, and so it -- I think if we were
14 to expand this out for you, I think you would actually see
15 some --

16 ALLEN GOOKIN: I would have expected, then, that
17 if you did that you would see the flood releases or
18 high-flow releases, so forth, and then you would see a large
19 portion of we're releasing the Mexico, CAP, the Fourth
20 Priority releases, that would be very flat, and then
21 suddenly you should see a drop under, say, the Basin
22 Alternative of 400,000 with a probability associated with it
23 and 400,000 should show up.

24 TERRY FULP: I think the other complicating factor
25 here is this has got the mechanism, the put and take, we

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1 call it, when we had to assume certain entities would create
2 conservation and then take the conservation out later;
3 right? In order to model that component. That's also
4 buried into this plot.

5 So I think it's -- there are certainly other plots
6 I think that would show exactly what you see or -- or are
7 looking to see, like a quantified probability plots of
8 shortages, you'll see it clearly a stairstep. There's also
9 in water deliveries to entities, you can see it -- like in
10 the Arizona water delivery, you'll see the stairsteps real
11 clearly in the shortages.

12 So my answer is it's in there, but it's just
13 getting washed out by all of the other things going on.
14 We'd be glad to -- again, when you see the data, we're gonna
15 give you the data, you'd be able to look in there and see
16 that.

17 ALLEN GOOKIN: And I'm looking forward to it.
18 Thank you.

19 TERRY FULP: Very good. That's what -- always
20 good questions about the plots, and we appreciate that.

21 NAN YODER: And again, I'll add, if you have
22 questions like that where you're trying to understand the
23 information portrayed, you know, please, you know, send us
24 an e-mail or give us a call --

25 TERRY FULP: Yeah.

CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING - 4/4/07

1 NAN YODER: -- and we'll help you understand
2 what's in front of you; okay?

3 ALLEN GOOKIN: Thank you.

4 TERRY FULP: And we always appreciate those kinds
5 of questions, because sometimes it helps us understand it
6 even better.

7 Okay. Thanks, Steve.

8 We've sure appreciated all the attentiveness and
9 the questions. I might just add one last thing, a couple
10 things, maybe.

11 Bob, in answer to your question, a little further
12 on, as soon as we get these modifications and changes made
13 and -- we'd obviously be very willing to share them with any
14 and all of you.

15 ROBERT PALMQUIST: Great.

16 TERRY FULP: I'm gonna guess it's more in the
17 Juneish time frame than -- I agree Steve's probably -- and
18 Amber are probably gonna work really hard in May, but I
19 think it would be more like mid-June or so by the time we'd
20 really be ready to -- to come to you. Maybe even late June.
21 So we don't want to overpromise time, but we'll absolutely
22 commit to doing that to meet that need.

23 The last thing I might add is how do these two
24 talks kind of fit together -- and we appreciate your
25 attentiveness to both -- it's really through the probability

CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING - 4/4/07

1 of shortage; all right?

2 So again, this model takes particular years and
3 particular volumes of shortages and says under these
4 assumptions, here's how it would be allocated. And the way
5 to then look at risk would be go look at -- in chapters 4.4,
6 same section, 4.4, there's detailed tables that list the
7 probability of incurring shortages of these magnitudes.

8 So that's kind of the way it couples up to look at
9 what your risk is. So hopefully that makes sense to you.

10 All right. Just a couple things on scheduling
11 again and we'll let you out. So we're here (indicating).
12 Public comment period we remind you again closes
13 April 30th. We really appreciate your comments during
14 that period of time.

15 We're on target to publish the final EIS in
16 September and still to reach a record of decision by
17 December of this year. So our goal is the 2008 operating
18 year would use these guidelines, whatever they end up being.

19 We might throw out just some dates. You do not
20 need to make this decision today, but for further
21 consultation, we already have that suggestion about detailed
22 modeling. Certainly we would offer a consultation prior to
23 the publication of the final EIS. We would offer you a
24 consultation once we've published the preferred alternative,
25 for instance, if that makes sense. We've mentioned that.

CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING - 4/4/07

1 And certainly again these modeling details, as soon as those
2 get cleared up.

3 So what we would ask you to do is think those over
4 and just let us know what makes sense for you and what kind
5 of time you want to use for yourselves, and we will make
6 ourselves available this summer to hopefully meet that --
7 meet those needs.

8 Yes.

9 ALLEN GOOKIN: Allen Gookin for the Gila River
10 Indian Community.

11 At least the Community would like to request
12 consultation after the preferred alternative is released.

13 TERRY FULP: Okay. Okay.

14 ALLEN GOOKIN: Thank you.

15 TERRY FULP: You're very welcome.

16 Well, with that, any final comments or questions?

17 If not, then, I think that closes our meeting and
18 our consultation with you for this -- this go-round. We
19 appreciate, again, you all being here. Thanks for all the
20 questions and input. We look forward to your comments.

21 (Whereupon the presentation and meeting was
22 concluded at 1:10 p.m.)

23

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CENTRAL ARIZONA PROJECT TRIBAL CONSULTATION MEETING - 4/4/07

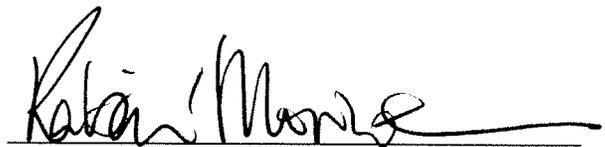
1 STATE OF ARIZONA)
2) ss.
3 COUNTY OF MARICOPA)

4 BE IT KNOWN that the foregoing Central Arizona
5 Project Tribal Consultation Meeting was taken before me,
6 RABIN' MONROE, RMR, CRR, a Certified Reporter, No. 50653, in
7 and for the County of Maricopa, State of Arizona; that the
8 proceedings were taken down by me in machine shorthand and
9 thereafter transcribed by computer-aided transcription under
10 my supervision and direction; that the foregoing pages,
11 numbered from 1 to 39, inclusive, constitute a true and
12 accurate excerpt of all the proceedings had upon the taking
13 of said meeting, all done to the best of my skill and
14 ability.

15 I FURTHER CERTIFY that I am in no way related to
16 any of the parties hereto, nor am I in any way interested in
17 the outcome hereof.

18 DATED in Phoenix, Arizona, this 10th day of April,
19 2007.

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23
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25



RABIN' MONROE, RMR, CRR
CR #50653

From: David Modeer [David.Modeer@tucsonaz.gov]
Sent: Monday, April 30, 2007 3:25 PM
To: strategies@lc.usbr.gov
Cc: David Modeer
Subject: State of Arizona Comments on the Draft EIS, Colorado
RiverOperations

Attachments: krisdennis.pdf

Please see attachment below.

Thank you,
David Modeer
Director
Tucson Water
(520) 791-2666



CITY OF
TUCSON

TUCSON WATER
DEPARTMENT

April 30, 2007

Honorable Dirk Kempthorne
Secretary of the United States Department of the Interior
1849 C. Street, NW
Washington, D.C. 20240

Re: City of Tucson, Arizona Water Department Comments Regarding the *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Dear Mr. Secretary:

The City of Tucson, Arizona Water Department (Tucson Water) submits the following comments to the *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement* (February 2007).

Tucson is located in the northern semi-arid reaches of the Sonoran Desert. Tucson Water, a municipally-owned and operated utility, is the largest water provider in southeastern Arizona, serving about 700,000 customers over a 300 square-mile service area. In addition, Tucson Water has the largest municipal and industrial (M&I) allocation of Colorado River water in the state of Arizona, with delivery via the Central Arizona Project (CAP). Tucson Water is the only water provider in southern Arizona currently delivering Colorado River water to its customers, with almost half of annual customer demand met through use of this renewable resource. The Utility has both construction projects and financial mechanisms in place to rapidly increase the percentage of Colorado River water used to meet demand over the next several years.

The City of Tucson is keenly interested in the selection of a preferred alternative for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead. Of the 7.5 million acre-feet of Colorado River allocation available to the lower basin states of California, Arizona, and Nevada, Arizona's 1.5 million acre-foot CAP water supply has the most junior priority. Tucson's location at the very end of the 336-mile CAP canal introduces an additional level of vulnerability when discussing potential Colorado River shortages, especially since Tucson has no other access to renewable drinking water supplies.



The Proposed Alternatives

There have historically been significant differences among the seven Colorado River Basin states concerning important elements of the Law of the River. Hydrological conditions on the River require that the Secretary, in consultation with the Basin states, adopt shortage guidelines. The process for adoption of such guidelines could have resulted in each of the Basin states asserting its legal positions - with extended litigation and years of uncertainty for Colorado River water users. The seven states chose, instead, to seek agreement on shortage guidelines and guidelines for the management of Lakes Mead and Powell for an interim period of nineteen years and to reserve their legal positions for later resolution if necessary.

The Basin States Alternative

Reclamation should Adopt the Basin States Alternative as the Preferred Alternative. The Basin States Alternative provides the greatest degree of certainty for Tucson Water because it is the compromise alternative developed by the Governor's Representatives of the seven Colorado River Basin States and can be implemented upon approval of the Record of Decision ("ROD") without the need for additional action.

The Basin States Alternative is the only alternative that meets all the criteria discussed in Section 1.1 of the Draft EIS that states, "[T]he Secretary intends to consider, adopt and implement the proposed federal action consistent with applicable federal law and judicial decisions, and, further, in a manner that will not require any additional statutory authorization." (DEIS at p. 1-1). This alternative also best meets the goals of the proposed action discussed in the February 28, 2007 Federal Register Notice, i.e., "[T]his action is proposed in order to provide a greater degree of certainty to U. S. 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 managers and water users in the Lower Basin to know when, and by how much, water deliveries will be reduced in drought or other low reservoir conditions." (72 Fed. Reg. 9027 dated February 28, 2007.)

In addition, the certainty provided by the Basin States Alternative goes well beyond the actual criteria and numbers. The Agreement reached by the Basin States, as reflected in the Basin States Alternative, creates an increased level of confidence that legal issues over the interpretation and implementation of the Colorado River Compact, the Mexican Treaty, accounting under the Arizona v. California Decree, and equalization of Lake Mead and Lake Powell will not result in costly and divisive litigation with an uncertain outcome for water users. The value of collaboration by the Basin States cannot be overstated.

Further, the Basin States Alternative provides flexibility within the system and a mechanism for maximizing the efficiency of the system by allowing for the intentional creation of surplus ("ICS") in Lake Mead by a Lower Colorado River mainstem contractor and release of that surplus for use within the state that created it, with the forbearance of the other Lower Division States. The State of Arizona recently enacted legislation that allows the State to forbear ICS water if the Secretary "adopts substantially the same concepts as contained in the proposal of the seven basin states for shortage

guidelines and conjunctive management of lakes Mead and Powell,” clearing the way, at least from Arizona’s perspective, for ICS to be implemented if that alternative is memorialized in the ROD.

Certainty for water users and the ability of the Basin States Alternative to be immediately implemented is also enhanced by the fact that the Lower Colorado River Multi-Species Conservation Plan (“MSCP”) provides compliance with the Endangered Species Act (“ESA”) for this alternative because the MSCP analyzed reductions of flow that exceed the reductions proposed in the Basin States Alternative. Additional ESA consultation that may be required under other alternatives raises uncertainties regarding the implementation schedule for those alternatives.

The Basin States Alternative is the only alternative that allows for the extension and modification of the existing Interim Surplus Guidelines (“ISG”) without the need for further action. The package submitted to the Secretary by the Seven Basin States on February 3, 2006 includes provisions to amend the ISG by agreement of all the States and the Basin States Alternative adopts those amendments.

The No Action and Water Supply Alternatives

The No Action and Water Supply Alternatives analyze a broad range of environmental impacts but do not meet the goals of the proposed action. Both alternatives fail to provide certainty for the timing and extent of shortages in the Lower Basin and fail to propose viable criteria for the coordinated management of Lake Powell and Lake Mead. These two alternatives do not allow for the creation or use of ICS thus limiting flexibility in the operation of the system and creating greater risk and uncertainty regarding shortages for water users in the Lower Basin.

The Water Supply Alternative reflects the traditional strategy for managing reservoir systems in the West, wherein shortages are declared only when water is physically unavailable for delivery. The DEIS also projects no likely shortages to Arizona during the interim period under this alternative. However, there would be less water retained in storage in Lake Powell under this alternative and it lacks consensus Basin States’ support.

The analyses of the No Action and Water Supply alternatives are important because they expand the range of analyzed impacts. However, neither alternative includes negotiated criteria for the coordinated operation of Lake Powell and Lake Mead or specific guidelines for the implementation of future water supply reductions in the Lower Colorado River Basin under defined shortage conditions.

The Reservoir Storage Alternative

The Reservoir Storage Alternative (“RSA”) proposes levels of shortages starting at 600,000 AF and increasing to 1,200,000 AF and the magnitude of the average shortage volumes during the interim period are the highest under this alternative. (DEIS at p. ES-10). The RSA does not meet the goal stated in the Federal Register Notice, i.e., “to (1) Improve Reclamation’s management of the Colorado River by considering the trade-offs between the *frequency and magnitude* of reductions of water deliveries...” (72 Fed. Reg.

9027 dated February 28, 2007. emphasis added). Furthermore, this alternative would require changes to the Law of the River prior to its implementation.

The Reservoir Storage Alternative serves a valuable purpose by allowing analysis of a broad range of impacts in the EIS, but it contains provisions that impound water for power generation and recreation to the detriment of downstream agricultural and domestic uses. This is prohibited by Article IV (b) of the Colorado River Compact (Compact) which clearly states that "Subject to the provisions of this compact, water of the Colorado River System may be impounded and used for the generation of electrical power, but such impounding and use shall be subservient to the use and consumption of such water for agricultural and domestic purposes and shall not interfere with or prevent use for such dominant purposes."

The Conservation Before Shortage Alternative

The Conservation Before Shortage Alternative ("CBS") also falls short of meeting the certainty provisions of the proposed action. With the CBS alternative, "shortages are implemented in any given year to keep Lake Mead above SNWA's lower intake at elevation 1000' (absolute protect of elevation 1,000)." Water users in the Lower Basin will be left to the whims of the Annual Operating Plan for determining when and how much of a shortage will be declared under this alternative. This greatly reduces certainty for water users like Tucson Water.

This alternative essentially would allow 4.2 million AF of ICS in Lake Mead compared to a maximum ICS of 2.1 million AF under the Basin States Alternative. Creating ICS of this magnitude could create too much risk for losing expensive ICS water to spills in wet years and earmark too much Lake Mead water for a particular water use, rather than for the system.

Two additional drawbacks of the CBS alternative are: (1) no funding mechanism for creation of ICS currently exists; and (2) including ICS by the Republic of Mexico could necessitate amending the 1944 Treaty to allow for the creation and delivery of ICS water to Mexico. Reclamation recognizes the limitations of the CBS alternative by stating, "[T]he viability of the Conservation Before Shortage program funding proposal is not known at this time. Reclamation currently does not have authority to implement all facets of this proposal and additional legislation would be necessary to gain such authority." (Draft EIS at p. 2).

Summary

In comparison of the proposed alternatives, it is evident that the Basin States Proposal is superior to any of the other alternatives because it provides the greatest degree of certainty to water users, avoids potential litigation, creates shortage criteria that are reasonable in magnitude and are readily predictable based upon elevations at Lake Mead, and presents a package that can be implemented without the need for further legislation or ESA compliance. Furthermore, the Basin States Alternative best meets all the aspects of the purpose and need for the action and has the support of the Basin States, which will enhance the Secretary's ability to manage the Colorado River system in a collaborative manner.

Tucson Water urges the Secretary to adopt the Basin States Proposal as the preferred alternative in the Final EIS.

Conjunctive Operation of Lake Mead and Lake Powell

The Basin States Alternative creates the ability to more effectively balance the contents of Lake Mead and Lake Powell in a way that better controls large fluctuations in reservoir elevations during extended periods of low inflow into the system. That alternative also removes potential issues over the methodology for equalizing the contents of Lake Mead and Lake Powell under other proposed alternatives.

Currently, equalization is largely governed by the Interim 602(a) Storage Guideline for Management of the Colorado River, which contains a 14.85 million acre-feet storage requirement. That guideline artificially limits equalization and has a detrimental effect on storage in Lake Mead and thus on Tucson Water. While the current guideline was also part of a package agreed to by the Seven Basin States as part of the ISG process, it essentially provides for greater protection for power production at Lake Powell than is otherwise authorized under the Law of the River. The Basin States Alternative replaces this equalization requirement in favor of a strategy that is not as onerous for Tucson Water.

If the Basin States Alternative is adopted and implemented in the guidelines set out in the ROD, at the end of the interim period in 2026 or if the guidelines are changed, whichever comes first, Reclamation must consult on the guidelines to assure that they are consistent with the legal priorities established by the Law of the River. For these reasons and because the coordinated operations of Lake Powell and Lake Mead are essential components to shortage criteria, the Secretary should adopt the Basin States Alternative.

The Record of Decision and Implementation of the Preferred Alternative

Tucson Water supports the Basin States Alternative as the preferred alternative and recommends that it be incorporated into the Record of Decision ("ROD"). Tucson Water believes that the Secretary should work with the Basin States to create specific implementation criteria and guidelines consistent with the adoption of the Basin States Alternative as the preferred alternative. That document will serve as a road map that can then be relied upon to better manage our water supplies and to better prepare for shortages. To effectuate those guidelines and criteria so that the certainty outlined in the proposed action is achieved, Tucson Water urges the Secretary to include a statement in the ROD that "during the effective period of the guidelines the Secretary shall utilize the established process for development of the Annual Operating Plan for the Colorado River System Reservoirs (AOP) and shall use those guidelines to make determinations regarding normal, surplus and shortage conditions for the operation of Lake Mead and for the coordinated management of Lake Mead and Lake Powell."

Cumulative Impacts of Shortages in Arizona

The DEIS has only attempted to analyze the socio-economic impacts for shortages in a single year. Analysis by the State of Arizona indicates a high probability that multi-year

shortages will occur. The socio-economic impacts of multi-year shortages should be analyzed and incorporated into the Final EIS for all of the alternatives.

Socioeconomic Impacts to Municipal Water Users in Arizona

The DEIS does not adequately analyze and describe the impacts to municipal water users in Arizona. The DEIS states, "Implementing statewide and local demand-side and supply-side strategies are expected to minimize adverse socioeconomic effects occurring during the maximum M&I shortage." This statement accurately reflects the strategies Tucson Water has historically used, and continues to use, for determining its long-term need for water supplies including supplies to help offset shortages. Likewise, demand restrictions are also part of the Utility's plan for dealing with actual shortages. Tucson Water's goal is to minimize the impacts on its citizens and on its economy. However, neither demand-side strategies nor supply-side strategies and actions come without a substantial price.

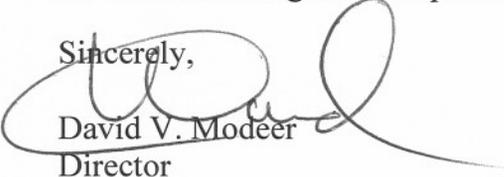
Arizona municipal water providers have already expended substantial sums of money in anticipation of shortages on the Colorado River. Municipal water users in Arizona, including Tucson Water, will rely in part on recovery of water stored underground by the Arizona Water Banking Authority to make up for shortfalls due to Colorado River shortages. Through calendar year 2006, the Arizona Water Banking Authority ("Bank") has stored about 2,243,000 AF of water at a cost of about \$101 million. Funding for the Bank comes primarily from a property tax in Maricopa, Pinal and Pima Counties, from a pump tax paid by groundwater users in those counties and from some appropriations by the Arizona Legislature.

The DEIS does not analyze quantitatively, or even qualitatively, the costs associated with shortages. This is a glaring omission in the DEIS. The socioeconomic impacts on municipal water users in Arizona due to Colorado River shortages are significant and should be documented in the Final EIS.

Conclusion

Tucson Water reiterates that the Basin States Alternative is the only alternative that meets all the criteria defined in the proposed action for the EIS. Tucson Water urges that the Final EIS adopt the Basin States Alternative as the preferred alternative and that a Record of Decision be signed incorporating the terms of the Basin States Alternative.

Sincerely,



David V. Modeer
Director

DVM:kc

cc: Robert W. Johnson, Commissioner, U. S. Bureau of Reclamation
Rick Gold, Regional Director, U. S. Bureau of Reclamation, Upper Colorado Regional Office
Jayne Harkins, Acting Regional Dir., U. S. BOR, Lower Colorado Regional Office
Larry Walkoviak, Deputy Regional Dir., U.S. BOR, Lower Colorado Regional Office



United States Department of the Interior

U.S. Fish and Wildlife Service

Arizona Ecological Services Field Office

2321 West Royal Palm Road, Suite 103

Phoenix, Arizona 85021-4951

Telephone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer to:

AESO/SE

22410-2007-TA-0224

April 24, 2007

Memorandum

To: Area Manager, Bureau of Reclamation, Boulder City, Nevada (Attn: Nan Yoder)

From: Field Supervisor

Subject: Draft Environmental Impact Statement (DEIS) on Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead – Comments

Thank you for the opportunity to assist as a Cooperating Agency in the development of this important DEIS. The Fish and Wildlife Service (FWS) provides the following comments for your consideration on the subject DEIS. We are providing these comments in accordance with the Council of Environmental Quality regulations addressing cooperating agency status (40C.F.R. 1501.6 & 1508.5).

We note that the FWS provided comments as a Cooperating Agency by memorandum dated January 19, 2007, and discussed these further at your January 22, 2007, meeting of Cooperating Agencies. We do not see acknowledgement of the following comments, even though during discussion of our written comments you did not express any concerns indicating that you could not use them. We therefore assumed that they were acceptable for incorporation into the EIS. We reiterate these comments and offer to discuss them if that would be helpful.

- 1) Page 1-13: Add Minute 306, December 12, 2000 to the Minutes noted in Table 1.7-1 for United States-Mexico Water Treaty of 1944, since it refers to collaborative efforts between the U.S. and Mexico to ensure use of water, i.e. quantity as noted for the 1944 Treaty on Page 1-12, lines 15 and 16, for ecological purposes in Reach 9.
- 2) Page 4-170, lines 10-29: The NIB-to-SIB, which is shared by the U.S. and Mexico, represents an important wildlife area, especially for migratory neotropical songbirds and waterfowl and other wetland birds. Also, various native and non-native fish species exist in the upper portion of the river that is maintained by sources including leakage at Morelos Dam, agricultural return drain flows, subsurface sources, and occasional releases. We continue to believe that effects to fish and wildlife resources should be addressed by this document in the NIB to SIB reach.

- 3) Page 6-5, lines 20-22: The FWS requests, pursuant to Executive Order 12114 as applied to the National Environmental Policy Act and development of this EIS, that our agency be included in investigations of the effects of this Federal action in the Colorado River delta area of Mexico due to our migratory bird and endangered species responsibilities.

The following are general comments as well as specific comments addressing specific sections, pages, and line numbers in the text.

Chapter 1

Page 1-3, lines 32-35: Reclamation should discuss what some of the anticipated future demands might be that could result in low reservoir elevations. Increased water use in the Upper Colorado River Basin is one likely cause. The reference to Colorado River Compact Article III(d) on page 1-15, lines 3-4 may also be appropriate to include.

Page 1-26, lines 22-26: While the LCR MSCP does provide “mitigation” for fish and wildlife species in the LCR corridor that are not included as covered species, it is inaccurate to state that effects to these un-covered species are fully mitigated. There are several land cover types that provide habitat for these un-covered species that are affected by LCR operations, but are not included in the conservation program.

Chapter 2

Page 2-2, lines 15-16: A definition of “system water” and “non-system water” would be appropriately referenced here. Also, in lines 20-22, is it Reclamation’s intent to have the regulations part of the proposed action detailed in the FEIS, or will the regulations be published separately?

Page 2-13, lines 12-13: Define “bypass flow”.

Chapter 3

Page 3-29, lines 15-21: We understand that Reclamation cannot predict how shortage would be managed by the water users in Arizona; although Arizona has provided some details in their Drought Preparedness Plan. However, since an obvious method would be to temporarily lease water from agricultural users in the Yuma area for delivery to Phoenix and Tucson, that would result in a decrease in the application of water to fields in the Yuma area. With less water on the fields, the amount of groundwater flowing into the river might be reduced. We suggest an explanation here (or reference to one in an Appendix) of why groundwater amounts are not likely to change due to the Federal action.

Page 3-71, Table 3.8-7: Bluehead suckers are probably not found in or below Lake Mead. The correct spelling of the species name for Yuma clapper rail is *Longirostris yumanensis*.

Chapter 4

Page 4-4, lines 35-40: Most available climate models project that the southwestern United States will experience a significantly more arid period in the 21st century, with a transition, which is now underway, to a more arid climate, dominated by a pattern similar to the current drought. We recommend that Reclamation add a section discussing this information and its implications in the context of Reclamation's analysis of future hydrology.

Page 4-7, lines 1-5: The LCR MSCP includes provision for the transfer of up to 1.574 maf from downriver agricultural users to more upriver urban users. This concept is not included within the common assumptions. We understand that a portion of the intent of the modeling is to show effects of the shortage alternatives and that those effects can be incorporated within the change in 1.574 maf, but this may not be clear to other readers. This is especially important when discussing the groundwater changes later in the section.

Page 4-8, lines 24-26: We believe it is important to include the rationale for the Drop 2 structure to be in place and operating. If the environmental compliance has been completed for this project, inclusion may be appropriate. If not, please explain why Reclamation believes this project has certainty.

Page 4-58, lines 6-10: This paragraph is an example of where a discussion of what is meant by "non-system water" would be helpful in understanding the closing statement. How would SNWA development of non-system supplies affect the releases from Hoover Dam?

Page 4-65, lines 8-13: In the introduction to this section (4.3.7), it might be worthwhile noting that in the event of a Phase 1 or Phase 2 shortage, the two major entities that would receive less water are CAP and MWD. Given that fact, flows entering and leaving Lake Havasu under shortage conditions would be largely the same (allowing for some minor depletions). Perhaps some explanation here on that subject would be useful. Also, flows below Parker Dam may, over the course of the 50-year life of the LCR MSCP, be reduced as much as 1.574 maf due to water transfers from agricultural users to the urban areas. How is that factored into the modeling?

Page 4-68, lines 7-15: Perhaps it would have been better to use the flows below Headgate Rock Dam (which would reflect diversions to CRIT) than to use those above which don't show any real difference from the Parker Dam releases. Unless the major water users below Parker Dam provide leased water for use by CAP and MWD during times of shortage, one would not expect these high-priority users to change their water use. Differences between the alternatives, particularly in terms of groundwater levels, are related to this.

Page 4-79, lines 6-13: Although this begins the discussion of SNWA's creation of new sources, it still does not relate how those sources would provide existing users with alternative water so that SNWA could take more river water. For example, desalinization plants would have to be operated near a source of non-Colorado River water in order to later affect an exchange.

Page 4-79, lines 30-40: Please explain the statement that the change in point of diversion effects under the LCR MSCP are not additive to the changes due to shortage.

Page 4-94, lines 1-6: Since storage of water is a factor in reducing shortages through maintenance of lake elevations, perhaps a discussion of how that stored water being used during a potential shortage situation affects lake levels. Similarly, for the surplus discussion on page 4-99, lines 1-13.

Page 4-162, lines 11-15: Perhaps it should be noted here that the LCR MSCP provides coverage for changes in points of diversion up to 1.574 maf/year. The amount of potential shortage is higher than that figure. It should be explained how the conservation for the LCR MSCP relates to the shortage amounts, particularly in light of the increase in amount of water that had a change in point of diversion over the 50-year life of the LCR MSCP.

Page 4-163, line 14: The summary in this section should focus on the changes in median flows and the relationship to groundwater levels. The amount of vegetation affected is directly related to those groundwater changes. The discussion should also address the frequency and multi-year potential for these reduced flows. This should be included in the discussions in subsections 4.8.3.4 and 4.8.3.5. It is the changes in groundwater that may be most relevant to an effects analysis since those changes can alter the vegetation structure and wildlife use.

Page 4-182, line 38- Page 4-185, line 35: This analysis would be more clear if it were organized either by alternative, or by percentile elevations. Based on figure P-81 (on page P-88) it appears that, at the 50th percentile, Glen Canyon Dam release temperatures would generally be colder for all alternatives compared to the no action , but the effects of this are not considered in the analysis.

Page 4-189, lines 33-34: If MacNeils sooty-wing skipper can be considered present in the lower Grand Canyon due to known records at the Muddy River, it seems inappropriate to state that this species does not occur at Lake Mead. Please review this information.

Page 4-192, lines 8-9: The woundfin is also not known from Lake Mead.

Page 4-194, lines 11-12 and page 4-197, lines 21-28: The Colorado River cotton rat is found from the vicinity of Needles south to at least Ehrenburg. Please examine the data on this species locations and revise these sections.

Page 5-11, lines 21-25: The Long-Term Experimental Plan for the Operation of Glen Canyon Dam will further modify the proposed action of the DEIS by potentially altering the daily and seasonal pattern of dam releases at Glen Canyon Dam which could have cumulative effects relative to the proposed action of the DEIS.

We look forward to continuing to work with you on this important effort. Our contacts are as follows: Sam Spiller (Lower Colorado River Coordinator, Tel: 602/841-5329, Email: sam_spiller@fws.gov) as the primary contact and for National Wildlife Refuge and Mexico delta resources; Glen Knowles (Biologist, Tel: 602/242-0210 x233, Email: glen_knowles@fws.gov) for Glen Canyon Dam and associated operations (generally downriver from Glen Canyon Dam to upper Lake Mead); and Lesley Fitzpatrick (Biologist, Tel: 602/242-0210 x236, Email: Lesley_fitzpatrick@fws.gov) for the Lower Colorado River Multi-Species Conservation

Program and associated operations (generally from upper Lake Mead downriver to the Southerly International Boundary).



Steven L. Spangle

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES, FR, RC (NWRS))
Lower Colorado River Coordinator, Fish and Wildlife Service, Phoenix, AZ
Director, Arizona Game and Fish Department, Phoenix, AZ
Director, California Department of Fish and Game, Sacramento, CA
Director, Nevada Department of Wildlife, Reno, NV

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State of Utah

Department of
Natural Resources

MICHAEL R. STYLER
Executive Director

Division of
Water Resources

DENNIS J. STRONG
Division Director

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

FAX TRANSMITTAL COVER SHEET

Date April 30, 2007

Time 3:55 PM

TO:

Name Regional Director

Agency USBR

Telephone No. _____ Fax No. 702-295-8156

FROM:

Name UTAH Division of Water Resour - Dennis Strong

Telephone No. 801-538-7250 Fax No. (801) 538-7279

TOTAL NUMBER OF PAGES (INCLUDING COVER SHEET) 4

COMMENTS:

UTAH's comments on DEIS

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April 30, 2007

Honorable Dirk Kempthorne
Secretary of the United States Department of the Interior
1849 C. Street, NW
Washington, D.C. 20240

Utah Division of Water Resources comments on the *Draft Environmental Impact Statement, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Mr. Secretary:

The Utah Division of Water Resources submits the following comments to the *Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, Draft Environmental Impact Statement* (February 2007). The Director of the Utah Division of Water Resources is the Governor of Utah's designated representative with the responsibility to consult, advise and confer with the Secretary of Interior on Colorado River operations.

Reclamation Should Adopt the Basin States' Alternative as the Preferred Alternative

Utah recommends the Secretary adopt the Basin States' Alternative as the preferred alternative as this is the result of extensive negotiations and compromise among the seven Colorado River Basin States. The Basin States Alternative addresses the issues identified during the Environmental Impact Statement (EIS) scoping process, and it can be implemented immediately upon issuance of the Record of Decision (ROD).

Five alternatives were analyzed in the Draft EIS to provide a wide range of operation evaluations. Only the Basins States' Alternative can be readily implemented and accomplish the purposes identified during scoping. While the analysis of the No Action and Water Supply Alternatives provide a broad range of impacts, neither includes criteria for the coordinated operation of Lake Powell and Lake Mead, or specific guidelines for the implementation of future water supply reductions in the Lower Colorado River Basin under defined shortage conditions.

The Honorable Dirk Kempthorne

April 30, 2007

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Implementation of the Conservation Before Shortage (CBS) or the Reservoir Storage Alternative would require extensive changes to the Law of the River, which Utah disfavors. The CBS Alternative includes the intentional creation of surplus and release of the surplus on the positive side from Lake Mead contained in the Basin States' Alternative. But it depends on a funding mechanism that does not currently exist. "Reclamation currently does not have the authority to implement all facets of this proposal and additional legislation would be necessary to gain such authority."¹ The CBS Alternative proposes allowing for the intentional creation of surplus by Mexico, and release of Intentionally Created Surplus (ICS) to Mexico in excess of the maximum delivery volumes identified in the 1944 Treaty. Therefore, a Treaty amendment would be required to accommodate the creation by and delivery of ICS water to Mexico. Because discussion with Mexico of the specific criteria that would govern the accounting and delivery of this water has just begun implementation of this alternative would be slow and complex.

The Reservoir Storage Alternative, like the No Action and Water Supply Alternatives, serves a valuable purpose by allowing analysis of a broad range of impacts in the EIS. Its provisions that impound water for power generation and recreation benefit Utah to the detriment of downstream agricultural and domestic uses while we would welcome such benefits they may be in violation of Article IV (b) of the Colorado River Compact (Compact). And, the Reservoir Storage Alternative does not address many of the other issues identified during the scoping phase and thus does not meet all needs identified.

Basin State Proposed Guidelines.

Since the February 3, 2006 letter to the Secretary outlining the Basin States' Alternative, the seven Colorado River Basin States have met extensively and developed Proposed Interim Guidelines for Colorado River Operations to implement the Basin States' Alternative as well as the necessary agreements among the states. These proposed guidelines are being transmitted jointly by the seven Colorado River Basin States in a separate submission. Utah strongly endorses these proposed guidelines as providing a framework to meet future demand on the Colorado River during the interim period (present to 2026).

Default Operating Criteria after Termination of Interim Guidelines

For the most part, the Interim Guidelines that would be put in place upon adoption of a ROD in concert with the Basin States Alternative will terminate in 2026, and could, under certain circumstances, terminate prior to 2026. The DEIS does not clearly set forth the default operating criteria for Lakes Powell and Mead that would apply upon termination of the Interim Guidelines. The proposed guidelines by the Seven Basin States submitted as comments to the DEIS remedy this

¹ Page 2-13, Draft EIS, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

The Honorable Dirk Kempthorne

April 30, 2007

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deficiency. Upon termination of those guidelines, operations of the Colorado Rivers System will revert to the baseline conditions of the Final Environmental Impact Statement for the Interim Surplus Guidelines dated December 2000 (i.e. modeling assumptions are based upon a 70R strategy for the period commencing January 1, 2026).

2020 Review

The Seven Basin States' Proposed Guidelines also include a review beginning no later than December 31, 2020 to evaluate the effectiveness of operations under these guidelines. As part of this review, the Secretary should also undertake the development process to account for the Mexican Treaty obligations. In addition to the Compact delivery of 75 million acre-feet over 10 years, the Upper Basin is only responsible for one-half of the deficiency in the Lower Basin towards meeting the Mexican Treaty obligation. Such Mexican Treaty deficiency accounting has never been undertaken and Utah strongly objects to the release of any water by the Upper Basin to meet the Mexican Treaty delivery requirement unless such an accounting process is in place and is used to determine the required amount from the Upper Basin. Upon termination of these guidelines the Mexican Treaty issue should be addressed and resolved so as to justify the release of any Upper Basin water to meet Mexican Treaty obligations.

To summarize Utah's comments, Utah requests the Secretary designate the Basin States' Alternative as the preferred alternative and give strong preference to the Basin States' Proposed Guidelines on Colorado River Operations when formulating its Record of Decision.

Respectfully,



Dennis J. Strong, P.E.

Director

Governor's Representative

From: PENELOPE PURDY [p2purdy@msn.com]
Sent: Thursday, April 26, 2007 7:56 AM
To: strategies@lc.usbr.gov
Subject: Colorado River Draft EIS public comments

Attachments: Colorado River draft EIS comments 4.6.07.doc

Dear Dr. Fulp and Mr. Peterson,

Please include our group's remarks as part of the public comments on the Colorado River Draft EIS. Our comments are attached as a Microsoft Word file. Thank you.

Sincerely,

Penelope Purdy
Director, Clean Energy Programs
Western Business Coalition for New Energy Technologies
1625 Broadway Suite 950
Denver CO 80202
303-592-4066 (office)

Colorado River Draft EIS
Comments from the Western Business Council for New Energy Technologies

Penelope Purdy
Director, Clean Energy Programs
WBCNET
1625 Broadway Suite 950
Denver CO 80202
(303) 592-4066 (office)

Introduction

The U.S. Department of Interior and its bureaus and agencies deserve applause for tackling the very difficult issue of how the Colorado River Basin states should share the pain of future droughts. Government officials at the federal and state levels displayed the political courage by trying to resolve the potential resource conflicts before the next crisis arrives.

The Western Business Council for New Energy Technologies believes that economic prosperity and environmental protection go hand in hand. Our members work in Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming, which also are six of the seven Colorado River Interstate Compact states. For the American West, the proper use of water is fundamental to the concept of sustainable, environmentally responsible business.

In this regard, we are concerned that there are significant omissions in the U.S. Bureau of Reclamation's draft environmental impact statement of February 2007, dealing with the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead.

Our overarching criticism is that the document is not forward-looking, but instead shows that the Bureau assumes climate conditions will remain more or less similar to ones found in the historical climate records. However, new scientific data prove the Bureau's assumption to be a risky one that could render the EIS' conclusions invalid, undermining the proposed alternative plans.

We are further concerned that the Bureau and the Western Area Power Administration have not considered the interplay of water supply and energy resources. Specifically, many states in the Colorado River drainage, including the lower basin states, continue to rely on, and are considering additional construction of, conventional coal-fired power plants, whose water demands are both large and inflexible. The increased energy demands for water from the Colorado River and other regional sources could reduce the region's ability to respond to changing water use patterns and climate conditions.

The Bureau itself has noted that doing nothing is unrealistic, as outlined in the No Action Alternative in Section 2.2. The Water Supply Alternative, detailed in Section 2.5, is similarly unacceptable because it only delays the inevitable need for the Bureau and the Basin states to make tough decisions.

Ultimately, we believe that a final record of decision should be based on the Conservation Before Shortage Alternative, as shown in Section 2.4. This alternative could be blended with the Basin States Alternative described in Section 2.3, which also acknowledges the need for better conservation of resources. Indeed, with the prospect of looming shortages, efficient water use is simply prudent business.

Climate change

The EIS fundamentally errs by not adequately considering how changing climate conditions will affect water supply and water use in the Colorado River basin. In Chapter 1, covering the EIS' Purpose and Need, the Bureau says that there will be no effect on climate change. In Chapter 3, the EIS also says that there will be no cumulative impacts. Both statements are wrong.

Only in Appendix N does the EIS discuss climate change in any depth. Even then, the document only considers data produced from tree rings and other past climate research. It does not discuss the numerous studies showing that future climate conditions may be much drier and hotter in the Southwest than they have been anytime in the past.

The dearth of discussion is surprising in an organization such as the Bureau, which prides itself on sound engineering and scientific principles.

The omission is especially puzzling because credible climate change studies are readily available in the public domain, such as *the U.S. Climate Change Research Program of 2002*. In spring 2007 the respected journal *Science* (Jian Lu & Seeger 2007) warned that future droughts associated with climate change will be unlike anything the region has previously experienced. Instead, droughts could become a near-permanent fixture in the Southwest. "It will be like a permanent 1930s or 1950s drought." (Seeger, quoted by reporter Katy Human, *the Denver Post*, April 6, 2007 p. 2B)

Arrayed against such warnings, it is inexcusable for the most important EIS on water shortages in our region to ignore the climate change issue.

Energy use

Energy policy is the proverbial elephant in the room regarding Western water supplies. Basin states have some of the fastest-growing populations in the country, with Nevada and Arizona among the top two. As the states' populations grow so will their demands for water and energy resources. Moreover, if the Southwest does, as predicted, enter into chronic drought conditions then demand for electricity likely will increase as more residents and businesses turn up their air conditioners.

Realistically, water policy cannot be separated from energy use. The Bureau, cooperating federal agencies such as WAPA and the governments of the Basin states clearly have a responsibility for determining energy resources and use patterns, so the EIS should analyze how their decisions on water use relate to their similarly important decisions regarding energy production and consumption.

We applaud efforts by some basin states to embrace alternative energy sources: Arizona has stepped up its use of solar and Colorado has boosted its commitment to wind power, for example. These projects will enable states to meet their energy needs without consuming large quantities of the arid region's limited water supplies.

By contrast, water devoted to coal-fired power plants will make it harder for water managers at the federal, state or local levels to also meet the demands of other industries

such as tourism, agriculture, light manufacturing and housing developments. Unlike tourism, agriculture and municipal use, water use by coal-fired power plants is inflexible unless the plants reduce their power output. Water use by coal plants thus represents a hard demand that is at odds with the need for flexibility in water supply from the Colorado River and non-system sources, as described in the Basin States and the Conservation before Shortage alternatives. The EIS should analyze whether the construction of new conventional coal-fired power plants in the Basin states will reduce the sought-after flexibility in water supplies.

There are many ways to make electricity: wind, solar, biomass and hydro, as the Bureau and WAPA have done for years. But in our arid region, there are only a limited number of places to find water for uses other than energy production, and even those supplies may be at risk as the climate changes. The EIS needs to reflect these realities.

From: David Whipkey [chorse36@msn.com]
Sent: Thursday, April 05, 2007 8:59 AM
To: strategies@lc.usbr.gov
Subject: Comments for Operations at Lake Powell & Lake Mead under Low Reservoir Conditions

Dear Mr. Johnson and Mr. Gold:

Lake Powell and Lake Mead lose 17 percent of the water that flows into them through evaporation. Vacant space in underground aquifers near existing Colorado River water recharge facilities could store more water than these two reservoirs combined. Upwards of 810,000 acre-feet of water annually could be saved by eliminating Lake Powell and operating Lake Mead principally for distribution to groundwater recharge facilities.

After more than 40 years of operation, it was not until the fall of 2004 that Lake Powell's water storage actually augmented downstream water use. And with the impacts of climate change and rising water consumption, it is unlikely that there will be sufficient surplus water to fill Lake Powell again. Even should surplus water accumulate, Lake Mead alone could provide sufficient storage.

Between Lake Powell and Lake Mead lies Grand Canyon National Park. The operation of both these reservoirs has impacted the Canyon, but Glen Canyon Dam at Lake Powell has been far more devastating. Since the dam's completion four of eight native fish have gone extinct and the dam has trapped the sediment necessary to maintain habitat and beaches for wildlife and recreation, as well as the stabilization of archeological sites.

Sediment is a major unresolved problem threatening the long-term operations of Lake Powell and Lake Mead. Ultimately, sediment must be removed to ensure public safety. Removing sediment from Lake Mead downstream, rather than Lake Powell upstream is the most technically feasible, least costly and environmentally advantageous approach.

The Colorado River Compact of 1922, which largely governs the operations of Lake Powell for Lake Mead, cannot meet its intended purpose of equitably sharing Colorado River water between the Upper and Lower Basin states. With River flows expected to decline 18 percent by 2040, this inequity will worsen, furthering the need for Compact amendments while highlighting the benefits of eliminating Lake Powell to fulfill the Compact's primary objective.

David Whipkey
132 Rebecca Dr.
Winchester, VA 22602

>>> "Crista Worthy" <crisaworthy@hotmail.com> 03/01/07 10:47 AM >>>

Thank you for the opportunity to comment: Due to climate change, which has already begun, it seems inevitable that those who depend on the Colorado River for their water supply will receive less and less in the future. This makes it all the more ridiculous to continue the existence of "Lake" Powell. Although I am one of those who has enjoyed boating on this reservoir, I also know that it wastes an obscene quantity of water each year, through evaporation and seepage--enough to supply the entire state of Nevada! The Glen Canyon Dam, just upstream from the Grand Canyon, not only prevents sediment from entering that National Park, but drastically lowers the water temperature, causing the extinction of a number of fish, and near-extinction of others, contrary to Federal Law.

Lake Powell should be drained, the dam decommissioned, and the West will instantly have enormously more water, which can be taken directly from the river or stored, if necessary, in the Lake Mead reservoir. The small amount of electricity generated at the Glen Canyon Dam can be replaced by building wind and solar generators nearby. The Grand Canyon river ecosystem, unique in all the world, will be saved. The muck and scum of "Lake" Powell that now fills the main channel of the Colorado River through Glen Canyon will clean itself out within a decade or so through natural forces, and Glen Canyon will once again be what it was: the true heart of the Southwest, an oasis with more wildlife than all the thousands of square miles of desert surrounding it put together.

Crista Worthy
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Pacific Palisades, CA 90272
(310) 454-4329
(310) 560-7324

>>> "John Shields" <jshiel@seo.wyo.gov> 04/30/07 3:24 PM >>>
Good afternoon,

Attached are the State of Wyoming's comments on the February 2007 Draft Environmental Impact Statement on "Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead." Please don't hesitate to contact me if I may answer any questions.

With best regards,

John W. Shields
Interstate Streams Engineer
Wyoming State Engineer's Office
Herschler Building, 4th East, Cheyenne, WY 82002 jshiel@seo.wyo.gov
<mailto:jshiel@seo.wyo.gov> ; <http://seo.state.wy.us>

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PATRICK T. TYRRELL
STATE ENGINEER

seoleg@state.wy.us

April 30, 2007

Honorable Dirk Kempthorne
Secretary of the Interior
Department of the Interior
1849 C. Street, NW
Washington, D.C. 20240

Re: Wyoming's Comments on *Draft Environmental Impact Statement Regarding Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions*

Dear Secretary Kempthorne:

Thank you for the opportunity to comment on the *Draft Environmental Impact Statement for Colorado River Reservoir Operations: Development of Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions* (72 Fed. Reg. 9026-9028) (February 28, 2007) (hereinafter "DEIS"). The Wyoming State Engineer's Office, on behalf of the State of Wyoming, would like to take this opportunity to offer comments on the DEIS. Importantly, Wyoming supports the comments made jointly by the Seven Basin States (hereinafter the Basin States' Comments) that were sent to you under separate cover.

We in Wyoming strongly believe the Basin States' Alternative, as described in the February 2007 DEIS (and as further elaborated upon through the recommendations made in the Basin States' Comments) provides the most suitable and acceptable mechanism for interim Colorado River System management through the end of calendar year 2025. The Basin States' Alternative provides the best solutions to the issues raised by the proposed federal action described in the Bureau's March 2006 Scoping Summary Report and February 2007 DEIS. The Basin States' Alternative best meets critical elements of the purpose and need statement set forth in the DEIS. Accordingly, the State of Wyoming joins the other Basin States in requesting that you adopt the Basin States' Alternative, as implemented through the Basin States' Proposed Guidelines, as the preferred alternative in the Final Environmental Impact Statement and Record of Decision.

In addition, the State of Wyoming provides within this letter our individual State comments. We wish to make it clear that these additional comments neither contradict nor

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disagree with the Basin States' Comments or in any manner diminish our support for the Basin States' Alternative. These individual State comments are as follows:

- **Coordinated Operations of Lakes Powell and Mead.** The Basin States' Alternative in the DEIS would modify the operation of both Lake Powell and Lake Mead through instituting a greater level of reservoir coordination during the interim period, effectuating criteria where releases from Lake Powell may vary based upon levels in both Lake Powell and Lake Mead. This would be done to help meet the objective of delaying the onset of water shortages in the Lower Division States and to minimize their extent and duration, while, at the same time, to maximize the Upper Division States' protection provided by having Lake Powell storage available to release so as to meet the Colorado River Compact non-depletion requirement at Lee Ferry. The "Basin States' Alternative" will provide for more efficient and responsive operation of the system reservoirs for the benefit of both the Upper and Lower Basins. For this reason, Wyoming is willing to accept the compromise that allows additional Lake Powell releases to Lake Mead at higher reservoir levels – which are offset by reduced Lake Powell releases at lower levels.

Under the Basin States' Alternative, reservoir storage levels in both Lakes Mead and Powell will serve as trigger points used in calculating annual Lake Powell release amounts. Nonetheless, it is vitally important that the Department of Interior and Bureau of Reclamation not lose sight of the statutory basis for the construction of Glen Canyon Dam and Lake Powell as set forth in the Colorado River Storage Project Act of 1956 (43 U.S.C. § 620) (CRSP Act). This keystone facility was originally constructed: "to initiate the comprehensive development of the water resources of the Upper Colorado River Basin ... making it possible for the States of the Upper Basin to utilize, consistent with provisions of the Colorado River Compact, the apportionment made to and among them in the Colorado River Compact and the Upper Colorado River Compact, respectively ..." The Basin States' Alternative maintains consistency with the CRSP Act by imposing a minimum storage level in Lake Powell of 14.85 million acre-feet, which amount is then adjusted yearly. The State of Wyoming could not accept coordinated Lakes Mead and Powell operations that ignore the CRSP Act's mandates or create undue detriments to or subordination of the need for Upper Basin storage in the interest of limiting Lower Division shortages.

- **Expiration of Interim Shortage Guidelines in 2025.** Expiration of the Guidelines in 2025 is an important aspect of Wyoming's support of any preferred alternative. We believe it will be necessary and desirable to re-examine management of Lakes Powell and Mead. The Basin States' Alternative proposes the initiation of that examination process prior to the end of the Interim Period. The DEIS recognizes that the Guidelines implementing the Action will be interim in nature, and will remain in effect for determinations to be made through 2025 for water supply and reservoir operating decisions through 2026. However, the DEIS does not clearly state what default operating criteria will be relied upon after that date. We urge the Department of the Interior to ensure (consistent with the Basin States' Comments), that the FEIS and particularly the Record of Decision clearly state that at the conclusion of the effective period of the shortage guidelines, the modeled operating criteria are assumed to revert to the operating criteria used to model baseline conditions in the December 2000 Final

EIS for the Interim Surplus Guidelines (i.e., operations are modeled as if system operations revert to a 70R strategy for the period commencing January 1, 2026 (for preparation of the 2027 AOP)).

- **Consultation with Basin States in 2020.** As stated above, the State of Wyoming strongly advocates that the Record of Decision specify default criteria for operating Lakes Mead and Powell after 2026. This should be done to assure that in the absence of a satisfactory agreement to do otherwise that the Upper Division States' interests are protected. The Basin States' Alternative specifies that the Bureau of Reclamation and the Basin States collectively identify and develop new Guidelines for the management of Lake Powell and Lake Mead prior to the expiration of the interim shortage guidelines. Accordingly, we request that the Final EIS and Record of Decision specify that the Bureau will initiate future consultation with the Basin States and other interested parties no later than December 31, 2020 to identify and implement appropriate management mechanisms for the Colorado River System following the Interim Period. The Basin States' Comments include language that would require the Bureau to initiate such consultation – and we urge the adoption of the Basin States' Proposed Guidelines.
- **Mexican Treaty Shortage Issues.** Colorado River shortages will be shared with Mexico, but how, when and to what extent are critically important and sensitive issues that must be addressed for the Bureau of Reclamation to develop a comprehensive program for administering the shortage guidelines during the Interim Period. There is unanimous consensus among the Basin States that the United States should reduce the quantity of water allotted to Mexico under Article 10(a) of the 1944 Treaty in any year the Secretary reduces the water available for consumptive use pursuant to Art. II (B)(3) of the Consolidated Decree in *Arizona v. California*. It is also the case that Article II (B)(3) reductions are not the only or sole mechanism to ascertain whether the United States should reduce the amount of water allotted to Mexico under the 1944 Treaty. The matter of equitably computing how much Mexico's water deliveries would be curtailed has been modeled in the DEIS, however, the DEIS states that this issue will be resolved through discussions with Mexico by the International Boundary Waters Commission in consultation with the Department of State.

We wish to offer two important comments in regards to these important issues. It must be recognized that other conditions (beyond Article II(B)(3) reductions) may arise that are reflective of “extraordinary drought in the Colorado River System” under Article 10(a) of the Treaty. Secondly, for the reason that resolution of the issues associated with imposition of water delivery shortages upon the Republic of Mexico has the potential to affect interests in both the Upper and Lower Colorado River Basins, it is critically important that all the Basin States be consulted in these discussions.

- **Definition of “Colorado River System” and “consumptive use.”** The Colorado River Compact provides a very specific definition of the “Colorado River System.” The DEIS appears to be somewhat inconsistent in its use and definition of this term. Specifically, the DEIS sometimes confuses the concepts of the “Colorado River System,” “Colorado River System water,” and the “Colorado River Mainstem.” We urge you to direct the Bureau of

Reclamation to make every attempt to avoid such inconsistencies in the Final EIS and in preparing the Record of Decision for your execution.

Similarly, the DEIS contains language summarizing the apportionments of the use of Colorado River water to the Basin States which states that “[t]he apportionments of the Basin States are generally presented in terms of consumptive use, which consists of diversions minus return flows.” This is an oversimplification and generalization that is inapplicable to apportionments made to the Upper Basin States. Article VI of the Upper Colorado River Basin Compact defines “consumptive use” in the Upper Basin as “man-made depletions of virgin flow at Lee Ferry.” The “diversions minus return flows” definition of consumptive use is not present in the Colorado River Compact. In *Arizona v. California*, the Supreme Court of the United States explicitly noted the definition used therein was not intended to interpret the Colorado River Compact. The Final EIS should be clear in stating it is providing and using a limited purpose definition.

- **Intentionally Created Surplus.** The Intentionally Created Surplus and Developed Shortage Supply programs outlined in the DEIS and more fully described in the Basin States’ Comments are supported by the State of Wyoming. We recognize that Intentionally Created Surplus and Developed Shortage Supply water stored in Lake Mead benefits the Lower Division. The direct benefit to the Upper Division is through increasing the Lake Mead water storage level – which reduces the amount of water that must be released from Lake Powell for equalization and balancing purposes. Wyoming again urges that the Final EIS and Record of Decision expressly adopt shortage guidelines consistent with the Basin States’ Alternative that permit the creation of Intentionally Created Surplus and Developed Shortage Supply.
- **Status of Existing Interim Surplus Guidelines.** As explained in the Basin States’ Comments, the Basin States recommend that the Final Environmental Impact Statement and Record of Decision adopt the Basin States’ combined Proposed Guidelines and that the Basin States Proposed Guidelines replace, rather than merely modify and extend, the existing Interim Surplus Guidelines.
- **Submission of Parties’ Documents.** The Basin States’ Comments have several attachments including side agreements in which the State of Wyoming has had no involvement. We again reiterate our strong support for implementation of the Basin States’ Alternative in the Department of Interior’s forthcoming Record of Decision, but wish to point out that since we are not a party to those side agreements that we are not necessarily in agreement with all of the statements or interpretations of the Law of the River that are found in them. We do agree the side agreements are appropriately part of the Basin States’ Comments and are necessary to the implementation of the Basin States’ Alternative; but we reserve the right to disagree with certain legal and factual recitations made in those side agreements in the future should it be determined to be in our State’s best interest to do so.
- **Disclaimer.** Since the NEPA process is not intended to provide a definitive interpretation of the Law of the River, we suggest it would be entirely appropriate and would serve a useful

Secretary of the Interior Dirk Kempthorne
April 30, 2007
Page 5

purpose for the Final EIS and Record of Decision to include an appropriate disclaimer akin to the language included in the Annual Operating Plans for the Colorado River System that are promulgated by the Bureau of Reclamation and authorized by the Secretary of the Interior.

Attached to this letter are a few additional specific comments concerning the DEIS document. Thank you for the opportunity to submit, and for your consideration of, these comments. Should I be able to answer any questions, please don't hesitate to contact me.

With best regards,



Patrick T. Tyrrell
Wyoming State Engineer
Wyoming Commissioner,
Upper Colorado River Commission

PTT:js

cc: Seven Colorado River Basin States' Representatives
Upper Colorado River Commission Executive Director Don Ostler
USBR Upper Colorado Regional Director Rick Gold

State of Wyoming's Specific Comments on the U.S. Bureau of Reclamation's Draft
Environmental Impact Statement: *Colorado River Interim Guidelines for Lower Basin
Shortages and Coordinated Operations for Lake Powell and Lake Mead*

Page 1-13, lines 8-9: "Documents which are generally considered as part of the Law of the River include, but are not limited to ..." It may be useful for the DEIS to state the basis for making this statement, e.g., in whose judgment is the list of documents included in Table 1.7-1 considered to be inclusive of the elements of the Law of the River?

Page 1-15, lines 29-31: "Consumptive use by a Lower Division state includes delivered water that is stored off-stream for future use by that state or another state." The DEIS needs to be more careful in distinguishing between Secretarial decisions (or proposals for how water would be accounted for once interim shortage guidelines have been proposed and promulgated) to account for water as opposed to making statements that are based on judicial determinations in *Arizona v. California* or make Compact interpretations on matters where there are differences of opinion among the Basin States. This sentence is one example of a number of instances where imprecise wording has been used, as pointed out in our comment letter.

Page 3-31, lines 28-31: The depletion projects for the Upper Basin States were actually developed by each of the Upper Basin States and were considered and approved for transmittal to other entities by the Upper Colorado River Commission. Updating or modification of those depletion projections was made in consultation with the Upper Basin States by Reclamation and the States.

Page 3-35, line 8: There is a word missing before the parenthetical phrase "(consumptive use)" in this line.

Page 3-43, line 26: It is not clear why the DEIS is relying upon a 2002 report by the Colorado River Basin Salinity Control Forum when the 2005 edition of the subject report is available and could have been used for this purpose and referenced. The references section (see page Ref-4) lists only the 2005 report though the text on this page reflects the 2002 publication date.

Page 3-44, lines 11-13: The distinction is not altogether clearly made that the salinity criteria are average annual flow-weighted values, whereas the comparison being made in this sentence is to a daily value that is not reflective of either the annual-averaging or flow-weighting procedures that would be needed for a valid comparison. Daily observed salinity concentration values are being compared in Figure 3.5-1 to a flow-weighted average annual salinity criteria figure of 723 mg/l.

Page 3-98, lines 3-4: The correct name of the program being referenced at this place in the text is the "Upper Colorado River Endangered Fish Recovery Program."

Page 3-100, line 32: There is a typo in this line where the sentence begins: "Changes in drops in the elevation ..."

Page 3-101, lines 26-27: The cost of power would be for the water pumps that are components within the intakes operated by the SNWA.

Page 4-3, lines 31-32: The DEIS could be made clearer here noting that the period 2008 to 2026 includes the year 2026.

Page 4-6, line 23: The words “possible sequences” should be changed to read “observed sequences” to more accurately communicate the statement that is being made. The historic record is indicative of what has been observed as opposed to what has been possible during the period during which records have been collected.

Pages 4-8 and 4-9, lines 31 through 37 and lines 1-2 on the next page: These statements with regard to replacement of the bypassed water should be clarified to more explicitly state what is being done and the timeline for accomplishing definite action. As written, the statements are vague and do not help to educate the reader.

Page 4-9, lines 30-33: The sentence found here concerning consultation with Mexico is completely lacking in stating when the subject consultation will or would occur.

Page 4-17, line 9: A typo is found in this line where the intent is to state “90th” rather than “90^h.”

Page 4-231, line 18: Lake “Powell” is misspelled in this line.

Page 5-7, line 34: The agreement referenced in this sentence was struck early in 2006 as opposed to “early in 2007.”

THE SPARKS LAW FIRM, P. C.

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4/30/07
4/30/07 BDD/MUC
1003
email to strategize acct

April 27, 2007

Via U.S. Mail Certified - Return Receipt Requested
7006 0810 0000 6725 0792

BUREAU OF RECLAMATION
ATTN: BCOO-1000
P.O. Box 61470
Boulder City, Nevada 89006-1470

Re: Comments on the DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead - YAVAPAI-APACHE NATION

Dear Regional Director:

This Firm serves as Special Legal Counsel to the Yavapai-Apache Nation (“Nation”) and submits the following comments on the *DRAFT Environmental Impact Statement for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead* (“DEIS”). The Nation previously submitted written comments to the Bureau of Reclamation (“Reclamation”) on August 31, 2005, and at meetings during scoping for the preparation of the DEIS. Those comments, including attachments, are incorporated here by reference.

The Yavapai-Apache Nation is located in central Arizona, near the communities of Camp Verde and Clarkdale. The Reservation is does not presently have an adequate water supply to serve the requirements of the Nation.

The Nation has a Central Arizona Project Indian Water Delivery Contract Between the United States and the Yavapai-Apache Nation dated December 11, 1980 (“CAP Contract”), a copy of which was previously provided in the Nation’s letter of August 31, 2005. This CAP Contract provides 1,200 acre-feet of CAP water to the Nation.

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River management strategies or decisions which would increase the frequency of shortages or the participation of others in the shortage pools, or reduce the long-term reliability of the Nation's CAP water by declarations of a "shortage," and other schemes which manipulate "credits", storage rights, and exchanges must be avoided. Several of the alternatives described in the DEIS present shortage sharing scenarios and "conservation" schemes that will substantially reduce the reliability of the Nation's CAP water supply and will materially injure the right of the Nation to receive this water supply under its CAP Contract.

Section 3.21 of the Nation's CAP Contract defines a "**Time of Shortage**" as "**a calendar year for which the Secretary determines that a shortage exists pursuant to Section 301(b) of the Basin Project Act, such that there is not sufficient Project Water in that year to supply up to a limit of 309,828 acre feet of water for Indian uses, and up to a limit of 510,000 acre feet of water for non-Indian Municipal and Industrial uses.**" Under the Nation's CAP Contract, deliveries of Project Water to the Nation in Times of Shortage may be reduced or terminated in accordance with Section 4.9 of the Nation's CAP Contract.

It is paramount that the Secretary of Interior ("Secretary") reject the proposed management strategies for Lake Powell and Lake Mead that would threaten the security or breach the Nation's CAP Contract or breach the Secretary's trust responsibility to properly manage and protect the Nation's CAP water as an Indian Trust Asset.

The Nation has always understood the terms of the CAP Contract relating to shortage to mean that delivery of CAP water depends upon the physical situation of the Colorado River and not upon a scheme of management in which some are benefitted while others are not. The Secretary owes the Nation a trust duty to refrain from implementing management strategies which interfere with the Nation's contractual rights and expectation of delivery of CAP water and funding for construction and

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the payment of OM&R from the power generation revenues and Lower Colorado River Basin Development Fund under its CAP Contract.

The following is a list of the Nation's primary objections and concerns regarding the DEIS:

1. The DEIS Does Not Discuss How Shortages of the Natural Flow of the Colorado River Will Be Shared from Year to Year Between the Upper Basin and Lower Basin States

The DEIS provides no discussion as to how shortages in the annual natural flow of the Colorado River which is not adequate to meet the 15 m.a.f. of apportionments to the Upper and Lower Basin States will be imposed as between the Upper Basin and Lower Basin. The DEIS must first discuss how shortages would be borne between the Upper Basin and Lower Basin, before discussing the allocation of water that is stored in the Colorado River reservoirs. The Secretary must first look to the annual natural flow of the River to provide the water supply that is to be apportioned.

Thereafter, the Secretary may look to the water which is stored in the reservoirs in the Lower Basin to provide the supplemental supply to meet the apportionment entitlements of contractors in the Lower Basin States.

2. The DEIS Cannot Lawfully Place Precedence Upon the Nevada Intake at 1050' Elevation Over the Requirements that the Nations Receive Their Entitlements from the Colorado River to Provide for Their Permanent Tribal Homelands

The DEIS should not place precedence and limit considerations regarding the mark at which shortages will be declared based upon the location of the State of Nevada's intake at the 1050' elevation in Lake Mead. While Nevada may deepen its intake facilities into Lake Mead to mitigate impacts when a shortage is declared on the River, the Nations have very few, if any, alternatives to enable them to obtain access to Colorado River water or replacement water supplies to provide for their Permanent Tribal Homelands. The DEIS should consider alternatives for shortage based upon the Secretary's

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obligation to protect and make available the Colorado River water supply to the Tribes, and to the long term reliability of the water supply for all contractors with rights to the River. The man-made intake facilities at Lake Mead for Nevada may be readily altered to correspond with the possibility of shortage, and thus, should be of little or no concern with regard to the management of the River, as opposed to those who have no other options.

The Law of the River does not allow the Lower Basin water supply to be managed primarily to serve one State or interest over another. The sole beneficiary of the Lake Mead scenario is Nevada, to the detriment of others, including the CAP Tribes. The alternatives must be adjusted to provide scenarios with equal consideration of the importance of the delivery of CAP water to the Nation.

3. The DEIS Erroneously Assumes that the Nation is a Subcontractor of the Central Arizona Water Conservation District

The DEIS erroneously assumes and conveys that the Nation is a subcontractor of CAP water under the Central Arizona Water Conservation District (“CAWCD”), a political arm of the State of Arizona. *See* Appendix E at E-1, showing the CAWCD as the entitlement holder for all CAP water. On the contrary, the Nation has a **direct** contract with the Secretary of Interior for the delivery of its CAP water, and the United States has a **direct** obligation to deliver this water pursuant to the Nation’s contract. *See* Nation’s CAP Contract. This misstatement should be corrected throughout the DEIS.

Since the Nation is a direct contractor with the Secretary, it must be treated on a co-equal level with that of CAWCD and other contractors in other states with direct contracts with the Secretary to receive the waters of the Colorado River. CAWCD also has a direct contract with the Secretary for the delivery of the non-Indian portion of CAP water and an obligation to repay the cost of the non-Indian portion of the CAP project to the United States.

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The Nation's water right to CAP water is a portion of Arizona's equitable apportionment under *Arizona v. California* that must be directly protected by the Secretary as an Indian Trust Asset for the Nation. The State of Arizona should have an interest in protecting the Nation's CAP water supply. However, the State's conduct in this matter shows that its sole interest and effort is focused upon committing the Nation's CAP water supply to non-Indian use, preventing the Nation from ever using the "wet" water to which the Nation has a right under its CAP Contract. Its conduct also indicates that the States seeks to take and keep the financial benefits from the CAP water to which the Nation is entitled, which is presently diverted and unlawfully "converted" to use by the State and other non-Indian interests.

4. Use of Reservoirs to Store and Deliver "Conserved" Colorado River System and Non-System Water

The DEIS, at ES-2, lists one of the purposes of the proposed federal actions as to "[a]llow for the storage and delivery, pursuant to applicable federal law, of conserved Colorado River system and non-system water in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead, particularly under drought and low reservoir conditions." While this purpose appears to be reasonable and foresightful, the method of implementing this purpose, as proposed in certain of the DEIS alternatives, will result in a wholesale taking of the Nation's CAP water, and allow the Nation's water to be committed to use by others. This is a violation of the Law of the River and of the Nation's CAP water rights which are Indian Trust Assets that must be protected by the Secretary.

"The States [in the Basin States Alternative] propose that the Secretary develop a policy and accounting procedure concerning augmentation, extraordinary conservation, and system efficiency projects, including specific extraordinary conservation projects, tributary conservation projects, introduction of non-Colorado River system water, system efficiency improvements and exchange of non-Colorado River System water. The accounting and recovery process would be referred to as

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‘Intentionally Created Surplus’ consistent with the concept that the States will take actions to augment storage of water in the Lower Colorado River Basin. The water would be distributed pursuant to Section II(B)(2) of the Decree and forbearance agreements between the States. The ICS credits may not be created or released without such forbearance agreements.” (Appendix at J-11).

However, substantially all, if not all, of these “policy and accounting procedures” are based on a fiction. All of the Colorado River water, natural flow, storage, and surpluses are committed by contracts with the Secretary and the Treaty with the Republic of Mexico. There are no unallocated or uncommitted amounts of Colorado River water possible, including the fictional “Intentionally Created Surplus.” The fictional “Intentionally Created Surplus” is actually an attempt to convert the water that is committed to some other use to another entity.

Due to its position, the State of Arizona has a particular interest in “conservation” methods for the Colorado River that would preclude the Arizona Tribes from participation. Once the same Colorado River water is labeled “conserved” by a particular party, the party (such as the State of Arizona) will preclude the Nation from participating in the benefits of the “conserved” Colorado River water.

The use of the “conserved” water that will be stored in the reservoirs and claimed exclusively by the State of Arizona (which thereby excludes Arizona Indian Tribe access) will reduce and manipulate the amount of water from the Colorado River and its storage that could be used by the Nation from year to year to fulfill their CAP water orders. This manipulation of the Colorado River water source to preclude its lawful use by the Nation is a violation of the Law of the River and a violation of the Nation’s CAP Contract.

Furthermore, the States cannot enter into forbearance agreements or shortage sharing agreements amongst themselves where the rights of Arizona Tribes to their share of Arizona’s equitable

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apportionment to the Colorado River would be manipulated by the States. *See e.g.* Appendix J-10 (“Arizona and Nevada will share shortages based on a shortage sharing agreement. In the event that no agreement has been reached, Arizona and Nevada will share shortages in accordance with the 1968 Colorado River Basin Project Act, the Decree, other existing law as applicable, and the Interstate Banking Agreement between Arizona and Nevada parties.”). The participation of the Arizona Tribes in the forbearance agreements or any other agreements between Arizona and other States, as co-equal water users of Arizona’s equitable apportionment, is required by the Law of the River, and by the direct contracts of the Tribes with the Secretary of Interior.

The proposed alternatives must be revised so that any “conservation” regime used to reduce the potential conditions which may cause or enable the Secretary to make declarations of shortage on the Colorado River, or used to provide additional waters to Arizona (including Arizona Tribes), include all Arizona CAP Tribes in the mutual “wet water” and financial benefits of such schemes. Otherwise, the Tribes will be subject to significant injury as a result of the manipulation schemes in violation of the Law of the River, and the contractual and constitutional rights of the Tribes.

5. The DEIS Does Not Discuss the Legal Authority for Allowing Credits for Fallowed Lands, Canal Lining and Other “Conservation” Measures

The DEIS does not discuss any legal authority which would permit the States to obtain credits for “fallowing” lands, canal lining and other measures undertaken to purportedly “conserve” Colorado River water. Under the law in Arizona, other western States and Federal Reclamation Law, the waters “conserved” by the fallowing of lands and the lining of canals is committed back to the stream flow to be used by the next water user in the system. *See Phelps Dodge Corp. v. Ariz. Dep’t of Water Res.*, 2005 Ariz. App. LEXIS 108 (Ariz. Ct. App. 2005) (observing that water rights in Arizona are “. . . usufructory, to ensure a maximum beneficial use of Arizona’s water resources.”) (citing *Clough v. Wing*, 2 Ariz. 371, 379-81, 17 P. 453, 455-56 (Terr. 1888)); *Salt River Valley Water Users’ Ass’n v. Kovacovich*, 3. Ariz.

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App. 28, 411 P.2d 201, 203 (Ariz. Ct. App. 1966) (“any practice, whether through water-saving procedures or otherwise, whereby [a diverter] may in fact reduce the quantity of water actually taken inures to the benefit of other water users and neither creates a right to use the waters saved as a marketable commodity nor the right to apply same to adjacent property having no appurtenant water rights.”); Kinney, *Treatise on the Law of Irrigation and Water Rights and the Arid Region*, (2nd Ed. 1912), §782, 783.

The DEIS must discuss what legal authority would permit the States to commit “conserved” water to inure to the benefit of a single party or particular beneficiary, rather than for the use and benefit of **all** users in the Colorado River system under the Law of the River. Furthermore, if such a “conservation” scheme could be lawfully implemented and used to benefit particular parties or beneficiaries, the Tribes must be permitted to participate, and the Secretary must fully support and protect the Nation’s full and unfettered participation and receipt of benefits.

6. Use of Surplus by Basin States

The Basin States Alternative also proposes a different scheme for the distribution of surplus. For instance, the Basin States Alternative would “[d]istribute Arizona’s share to surplus demands in Arizona including off stream banking and interstate banking demands.” *See* Appendix at J-9. The problem is that based upon historical and present practices by Arizona (which is charged with protecting the entire State’s equitable apportionment from the Colorado River, including that which is used by the Tribes) the State would nevertheless use this surplus for the benefit of non-Indians, to the exclusion of the Tribes. In fact, the State of Arizona is engaging in this conduct now, through, *inter alia*, the Arizona Water Banking Authority and the interstate water banking agreement with Nevada. The Secretary’s approval of the Basin States Alternative would put the weight of authority of the United States behind these wrongful acts by the State of Arizona.

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The Secretary should not select the Basin States Alternative or any other alternative, where it would exclude Tribes from participation in the arrangements made on the Colorado River during times of surplus. In addition, the Secretary must include the Arizona Tribes and ensure that the Arizona Tribes receive the mutual benefits of surplus on the Colorado River.

7. The DEIS Does Not Provide Adequate Details Regarding the Basin States Proposal for Accounting Policy and Procedure for Intentionally Created Surplus

The DEIS does not provide sufficient detail regarding the alternatives for the accounting policy and procedure that the Secretary would implement for Intentionally Created Surplus or any other “conserved” water. Without this detail, it is unclear as to how the CAP Tribes would be permitted to participate in the ICS and the impact of the uses of the ICS upon the Tribes. This should be corrected in the DEIS.

8. The Arizona Water Settlements Act, P.L. 108-451 Is Not Yet Enforceable

The DEIS’ underlying assumption and reliance upon the AWSA as defining the characteristics of the CAP is premature. *See* DEIS at 4-81. The AWSA is not yet enforceable and may never become enforceable. If so, the DEIS or Final EIS intended to be published by December 2007, will require immediate revision and further public comment. In addition, the existing DEIS should include an impact analysis which compares the impacts under the present characteristics of the CAP with the impacts under the characteristics which would exist if the AWSA were to become enforceable.

9. There Is No Misunderstanding As To How Shortages Are To Be Distributed Between CAP Indian and M&I Priority Users Within the CAP

The DEIS states that “prior to the enactment of the AWSA, there were differing views as to how mild shortages would be distributed between CAP Indian and M&I priority users.” (DEIS at 4-124). While there may be so-called “differing views”, the Nation’s CAP Contract is very clear regarding how

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shortages are to be implemented as to the Nation. Furthermore, the AWSA did nothing to clarify how such shortages are shared, because the Nation's CAP Contract cannot be affected or modified by the AWSA. The DEIS and its underlying assumptions must be changed to reflect and analyze the true nature of the Nation's CAP entitlement and how shortages within CAP will be implemented as to the Nation.

10. The DEIS Does Not List or Discuss the Impacts to the Nation's CAP Entitlements

The Nation has a contractual right to CAP water under a direct contract with the United States. As reflected in the DEIS, the Nation's CAP Contract could be used to satisfy the Nation's *Winter's* or federal reserved water rights. Since this water could be used in this way, the DEIS should analyze the impact of the shortage criteria as an Indian Trust Asset. In addition, since the Nation has a direct contract with the United States on a co-equal basis with CAWCD, the DEIS should analyze the impact of shortage sharing upon the Nation separately from any analysis of shortages which pertains to other CAP water users.

11. The DEIS Fails to Adequately Discuss or Analyze the Impacts of the Alternatives Upon the Nation

The DEIS finds that "No vested water right of any kind, quantified or unquantified, including federally reserved Indian rights to Colorado River water, rights pursuant to the Consolidated Decree or Congressionally-approved water right settlements utilizing CAP water, will be altered as a result of any of the alternatives under consideration." DEIS at 4-123. This is incorrect.

The DEIS erroneously attempts to delineate between a paper water right and wet water. These are one in the same. Whether or not the paper water right becomes wet water is determined by whether or not the law is followed and whether or not the Secretary undertakes actions (or fails to take actions) which diminish the reliability or injure the ability of the Nation to receive its wet water. The implementation of shortage sharing criteria which would hinder the Nation's ability to receive the water

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to which it is entitled, and the selection of an alternative which would permit waters to be “conserved” and committed to exclusive use by certain parties, alters the reliability of the Nation’s entitlement to CAP water. The DEIS cannot distinguish between the effect of the alternative upon the legal entitlement of the Nation versus the effect upon the Nation’s receipt of the wet waters pursuant to the legal entitlement.

The DEIS proposes alternatives which will impact and diminish the reliability of the CAP water supply and thus, injure the ability of the Nation to receive the wet water to which it is entitled. The Secretary is charged with the responsibility to implement shortage sharing criteria which protect the Nation’s receipt of the CAP water supply which is an Indian Trust Asset. The DEIS must analyze the impacts upon the Nation’s receipt of the water to which it is entitled, and not merely make a statement that the alternatives will have “no effect” upon the Nation’s legal entitlement to the CAP water. A policy which proclaims no impact on the Nation’s legal entitlement which results in **no wet water** to fulfill its entitlement is deceptive and amounts to invidious discrimination. The DEIS’ avoidance of discussing the true impact of the alternatives upon the Nation must be corrected.

12. The DEIS Fails to Discuss How “Voluntary” Shortages Would Be Implemented and Their Resultant Effect Upon the Nation and Its Right to CAP Water

The DEIS mentions that certain “voluntary” shortages could be implemented. DEIS at 4-12.

However, the DEIS is unclear as to who would agree to such voluntary shortages. The Secretary cannot permit the State of Arizona to decide whether or not it would enter into a voluntary shortage, where such shortage would diminish the reliability of the Nation’s CAP water. This is simply unlawful.

Furthermore, the Secretary cannot allow other states to enter into “voluntary” shortages and alternative River management schemes that would create conditions where the Tribes were required to bear shortages that would not otherwise be borne, absent such voluntary agreements or schemes. The DEIS

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fails to discuss this in any detail. The DEIS should be revised for clarity and to provide a meaningful analysis of the impacts of the proposed “voluntary” shortages to the Nation’s receipt of its CAP water supply.

13. The DEIS Fails to Discuss the Potential Impact of Any of the Alternatives on Water Quality or Quantity to Which the Republic of Mexico is Entitled Under Treaty

The DEIS fails to discuss the ongoing and potential environmental impacts of any of the alternatives on the Colorado River delta, including wet lands, and the fact that the delta is one of the primary marine nurseries supporting aquatic life, fisheries and migratory wildlife subject to international treaties, and the ultimate fish production and annual catch allocated among countries of the Pacific Rim. The alternatives proposed by the DEIS, with the increase in use of the Colorado River proposed by the alternatives, including the Basin States Alternative, will undoubtedly impact the delta.

Please continue to keep this Firm on your mailing list for all future communications and documents related to this matter.

Yours Truly,

THE SPARKS LAW FIRM, P.C.



Robyn L. Interpreter

RLL/rli

cc: Jamie Fullmer, Chairman
David Kwail, Vice-Chairman
Council Members

April 05, 2007

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To: Regional Director, Lower Colorado Region, Bureau of Reclamation, Attention: BCOO-1000, Box 61470, Boulder City, Nevada 89006-1470
From: Earl Zarbin, 3803 E. St. Catherine Ave., Phoenix, AZ 85042-5013 - (no home Internet or fax reception)
Re: BCOO-1000 - Response to Draft EIS - Colorado River Interim ENV-6.00 Guidelines for Lower Basin Shortages, etc.

Best alternative: Given Arizona's growing population, the U.S. secretary of the Interior should adopt as a guideline for Lower (Colorado River) Basin Shortages the alternative calculated to do the least harm to the sufficiency of the Central Arizona Project water supply.

Preferred action: Because it is preposterous and illogical to lock into perpetuity a system of water distribution that ignores population shifts and other Colorado River Basin changes, and,

Because the present system unjustly enriches or enables some people at the expense of others, and,

Because there exists a need to restore reason, common sense, and sanity to management of the Colorado River,

The areas of the seven Basin States and the Republic of Mexico within the Colorado River Basin should seek to create a new entity administratively independent of their federal and state governments and other special interests. To accomplish this, the seven Basin States:

Should create, using **Section 19** of the Boulder Canyon Project Act, a Colorado River Basin Authority or other entity independent of the U.S. secretary of the Interior, and invite Mexican water users to cooperate.¹

(Should the Basin States meet to create a Colorado River Basin Authority, Section 19 permits the U.S. president to name a representative to "participate" and to "report to Congress of the proceedings and of any compact or agreements entered into." The States and the Congress have to approve any agreement, but the Interior secretary has no role unless named by the president. The Interior secretary should not be named.)

¹ Ideally, as noted by John Wesley Powell, river basins should be operated as a unit. For the Colorado River Basin, options include: 1) The U.S. should acquire the portion of Mexico receiving Colorado River water; 2) Mexico should acquire areas of the seven states within the basin; 3) the Colorado River Basin, including the area in the U.S. and Mexico, should create an independent Colorado River Basin Republic. None of these are likely to occur, which means the present messy management of the river will continue unless the seven Basin States unite and act to change the system.

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Powers of the Authority should include:

1) Use of eminent domain to reallocate water from farmers or others, both on and off Indian reservations, for urban purposes. There should be one-time compensation to anyone giving up water. (Reservation Indians are citizens of the U.S. and should be treated as all other citizens, i.e., the special privileges awarded reservation Indians by the U.S. Congress at the expense of other citizens should end.)

2) Own and operate the river dams.

3) Construct additional dams and diversion works.

4) Augment the river supply.

Other considerations:

The Authority should urge the U.S. Congress to:

1) Repeal the U.S. Supreme Court's "practicably irrigable acreage" (PIA) ruling as the measure of water for Indian reservations (PIA ignores reality, from climate to location, and awards excessive quantities of water to some tribes. See footnote for two such tribes in Arizona).²

2) Repeal language in Section 5, Boulder Canyon Project Act, which the U.S. Supreme Court purposefully misinterpreted to give the U.S. secretary of the Interior power to distribute water to Arizona, California and Nevada, and to users within these states.

3) Repeal all laws based upon PIA.

4) Repeal all laws that conflict with powers given the Colorado River Basin Authority.

5) End the reservation system for Indians and assure "the equal protection of the laws" for all citizens as provided in the 14th Amendment to the U.S. Constitution.

Correction: "The Gila River Reservation," according to Chapter 3, 3-88, lines 38-39, Draft EIS, "Reclamation, Managing Water in the West," "was established by executive order in 1859..." (emphasis supplied). Not so. The reservation was created February 28, 1859, by an act of the U.S. Congress.

² With implementation of the Arizona Water Settlements Act of 2004, two Arizona Indian reservations, with less than one-half of 1% of Arizona's 5,130,632 people in 2000, are supposed to have yearly almost 1 million acre-feet of Arizona's Colorado River water entitlement. These two are the Gila River Indian Community (GRIC), 328,800 acre-feet (including 17,000 acre-feet from ASARCO, Inc., that remains unsettled), and the Colorado River Indian Tribes, 662,402 acre-feet. With fewer than 19,000 residents, these two reservations will have 991,202 acre-feet (including the 17,000 acre-feet). Add in the Gila River tribe's other water, and the two reservations yearly will have 1,315,902 acre-feet. Not morally, ethically, or historically are these tribes entitled to that much water. These tribes no doubt will be founding members of the Organization of Water Exporting Tribes (OWET).