

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

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MEMORANDUM

Bill Owens
Governor

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Executive Director

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Dan McAuliffe
Deputy Director

TO: Colorado Water Conservation Board Members

FROM: Randy Seaholm,
Chief, Water Supply Protection

DATE: June 30, 2007

SUBJECT: Agenda Item 18, July 11-12, 2007 Board Meeting –
Colorado River Updates

Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead DEIS

On June 15, 2007 the US Bureau of Reclamation released the description of the "Preferred Alternative" (PA) they will consider in the DEIS. The PA is essentially the 7 Colorado River Basin State proposal with a couple of deviations. First, it does not specify any shortages to Mexico, but rather will identify a range of shortages that may be assessed to Mexico. The modeling done to date for the DEIS has assumed that Mexico will be shorted 16.77 % or their proportionate share of water deliveries out of Lake Mead for use in the Lower Basin and Mexico. Additional modeling will be done to provide for a range of potential shortages to Mexico. The shortages to Mexico remain a significant area of discussion between the Upper Basin and Lower Basin and within the Federal Government and Mexico and this approach keeps the options open for future discussions with Mexico. Shortages to Mexico and related drought issues are the next major issue for the Basin States to address with Interior, State, Reclamation, and the International Boundary and Water Commission.

Secondly, and perhaps more significant, is the provision that the Intentionally Created Surplus (ICS) storage accounts in Lake Mead provided for in the 7 State proposal will be allowed an opportunity to expand up to 4.2 MAF. This is double the 2.1 MAF proposed by the 7 States. This expansion would be subject to all of the conditions and limitations that are presently proposed for the ICS accounts. It is important to note that this expansion leaves the doors open to both Mexico and environmental interests to participate in the ICS program. The ICS program, as currently proposed, generally serves to keep Lake Mead higher, thus lessening the potential for shortages to the Lower Basin and reducing the potential for and amount of equalization between Powell and Mead. ICS accounts are a benefit to the Upper Basin as long as the annual amounts released and the rates of release are limited.

We have attached the PA as released by Reclamation hereto.

Colorado Water Conservation Board
Flood Protection • Water Supply Planning and Finance • Stream and Lake Protection
Water Supply Protection • Conservation and Drought Planning

7-State Meeting June 25, 2007

The 7 Basin States met in Denver on June 25 to discuss how best to work with the Interior and State Departments on implementing shortage sharing provisions with Mexico. Updates were also provided on a number of other items related to the 7 State proposal. Furthermore, just prior to the meeting Arizona raised concerns with how equalization was modeled during the DEIS process.

1. Mexico

Secretary Kempthorne and Reclamation had an opportunity to meet with the State Department and the Mexican Ambassador recently. All seemed to apparently agree that discussion on a number of issues related to drought and Colorado River issues in general would be a good idea. Discussions need to move past the All American Canal issue, which will continue to be very contentious. Interior and State are working on some "principles" for further discussions with Mexico, however those are not ready to be shared.

We also learned that a small group of Lower Basin interests have been meeting with certain Mexican interests to develop a concept paper on drought and other related matters. While the concept paper is nearing completion, it also was not ready to be shared with other interests.

It was suggested that the best way to advance issues with Mexico at this point in time was informally, but with the goal of Treaty Minute as the ultimate outcome. More on this matter to follow, but it seems clear that interests in the Upper Basin need to be more involved or at least kept better informed on these discussions.

2. Arizona position on modeling of equalization in the DEIS

Arizona has taken the position that in years when equalization is required that it should not be constrained or stopped when the volume of release is projected to cause Lake Powell to fall below the 602(a) storage levels adopted for use in the DEIS and agreed to by the 7 states. Arizona has been aware of how 602(a) storage protections were being modeled and to raise this issue after the 7 states have submitted their proposal to Reclamation is disingenuous and inappropriate. The Upper Basin would have never given on the idea of allowing equalization to go unconstrained and that is in fact the reason that a different term "balancing" was used as operations under lower reservoir conditions were developed to keep storage in both Powell and Mead approximately the same. The Upper Basin is very concerned by this latest action by Arizona and we believe is of such significance that Reclamation would at a minimum need to do a supplemental EIS. Pursuit of this issue by Arizona as the potential to significantly delay Reclamation's schedule for completing the DEIS and will certainly strain the ability of the 7 States to remain united on the 7 state agreement. From the Upper Basin perspective we believe this is an issue that all 7 states agreed to set aside until 2025 and that a deal is a deal. We will have to wait and see how Reclamation responds to this matter.

3. Progress on other Actions in the 7-State Agreement

Attached is the agenda listing the other items that were discussed at the 7 State's meeting. In general, good progress appears to be being made on those items. The biggest accomplishment was the completion of the Long-term Augmentation Study by Colorado River Water Consultants and funded by the Southern Nevada Water Authority. The Study is being put in final form and will be distributed shortly.

Attachments

Colorado River Reservoir Operation:

Development of Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead¹

[Posted on Project Web Site: June 15, 2007]

Description of Preferred Alternative to be Considered in the Final Environmental Impact Statement

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, and the Council on Environmental Quality's regulations for implementing the procedural provisions of NEPA, the Department of the Interior (Department) published in the *Federal Register* (FR) a Notice of Intent on September 30, 2005 (70 FR 57322), issued a Scoping Summary Report on March 31, 2006 (71 FR 16341), and issued a Draft EIS on February 28, 2007 (72 FR 9026) for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead. The Draft EIS is available at <http://www.usbr.gov/lc/region/programs/strategies/draftEIS/index.html>.

The Bureau of Reclamation (Reclamation), acting at the direction of and on behalf of the Secretary of the Interior (Secretary), proposes to take action to adopt interim Lower Colorado River Basin shortage guidelines and coordinated reservoir management strategies to address operations of Lake Powell and Lake Mead, particularly under low reservoir conditions. The Department anticipates that the operational guidelines will be implemented through 2026 and that the elements of the proposed action will include:

- Adoption of guidelines that will identify 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 (a "Shortage") pursuant to Article II(B)(3) of the Consolidated Decree entered by the United States Supreme Court in the case of *Arizona v. California*;
- Adoption of guidelines for the coordinated operation of Lake Powell and Lake Mead to provide improved operation of the two reservoirs, particularly under low reservoir conditions;
- Adoption of guidelines to allow 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; and
- Modification of the substance of the existing Interim Surplus Guidelines (ISG), published in the FR on January 25, 2001 (66 FR 7772), and the term of the ISG from 2016 to 2026.

¹ Publication of this description of the Preferred Alternative is intended to facilitate public information regarding this ongoing NEPA process. Reclamation intends to utilize this Preferred Alternative as its proposed action as it prepares appropriate environmental compliance documents. However, further refinement of the information presented in this description will occur as Reclamation prepares a Final EIS (which is anticipated to be published in September, 2007) and other appropriate documentation.

Through extensive coordination with the cooperating agencies, stakeholders, and the public, Reclamation developed a No Action Alternative and four action alternatives and analyzed those alternatives in the Draft EIS. Each of the alternatives in the Draft EIS included some expression of the four elements of the proposed action noted above. Reclamation did not identify a preferred alternative in the Draft EIS and sought comment with regard to stakeholder preferences.

After consideration of the comments received on the Draft EIS and further analysis, Reclamation has identified the operational elements that it intends to incorporate as the Preferred Alternative that will be analyzed in the Final EIS. The Preferred Alternative is comprised of operational elements identified and analyzed in the Draft EIS. The key assumptions for all of the alternatives are summarized in Tables 1, 2, and 3.

The next steps include determination of the potential impacts to environmental resources of the Preferred Alternative. The results of the resource analyses will be documented in the Final EIS, targeted for publication in September 2007.

Table 1. Matrix of Alternatives				
Alternatives	Shortage Guidelines to Reduce Deliveries from Lake Mead (elevation in feet, maf)	Coordinated Reservoir Operations (Lake Mead & Lake Powell) (elevation in feet, maf)	Lake Mead Storage and Delivery of Conserved System and Non-system Water	Interim Surplus Guidelines (ISG) for Deliveries/Releases from Lake Mead
No Action	<ul style="list-style-type: none"> Determination made through the ACP 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 water management mechanism for storage and delivery of conserved system and non-system water 	<ul style="list-style-type: none"> No modification or extension of the ISG which end in 2016 After 2016, determination made through the ACP process, absent surplus guidelines; reasonably represented by the spill avoidance (referred to as the 70R) strategy
Basin States	<ul style="list-style-type: none"> Shortages (i.e., reduced deliveries in the U.S.) of 333, 417, and 500 kaf from Lake Mead at elevations 1,075, 1,050, and 1,025 respectively¹ Initiate efforts to develop additional guidelines for shortages if Lake Mead falls below elevation 1,025 (Note: includes re-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 releases are required Under lower reservoir conditions, either reduce Lake Powell release or balance volumes depending upon elevations at Lake Powell and Lake Mead 	<ul style="list-style-type: none"> Storage and delivery of conserved system and non-system water through Intentionally Created Surplus (ICS) Maximum total ICS in Lake Mead of 2.1 maf System assessment of 5% when ICS is created 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026
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"> Prior to shortage, conservation of different volumes of water tied to Lake Mead elevation Storage and delivery of conserved system and non-system water through ICS Water for environmental uses Maximum total storage of conserved system and non-system water up to 4.2 maf System assessment of 5% when ICS is created 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026
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"> No water management mechanism for storage and delivery of conserved system and non-system water 	<ul style="list-style-type: none"> Extension of the existing ISG through 2026
Reservoir Storage	<ul style="list-style-type: none"> Shortages (i.e., reduced deliveries in the U.S.) of 500, 667, 833, and 1,000 kaf from Lake Mead at elevations 1,100, 1,075, 1,050, and 1,025 respectively¹ 	<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 3,560 	<ul style="list-style-type: none"> Storage and delivery of conserved system and non-system water Maximum total storage of conserved system and non-system water of 3.05 maf System assessment of 10% of stored conserved system and non-system water 	<ul style="list-style-type: none"> Provisions of existing ISG terminate after 2007, and during period from 2008-2026, surplus determinations are limited to 70R and Flood Control conditions
Preferred	<ul style="list-style-type: none"> Shortages (i.e., reduced deliveries in the U.S.) of 333, 417, and 500 kaf from Lake Mead at elevations 1,075, 1,050, and 1,025 respectively¹ Initiate efforts to develop additional guidelines for shortages if Lake Mead falls below elevation 1,025 (Note: Includes re-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 releases are required Under lower reservoir conditions, either reduce Lake Powell release or balance volumes depending upon elevations at Lake Powell and Lake Mead 	<ul style="list-style-type: none"> Storage and delivery of conserved system and non-system water through ICS Maximum total ICS in Lake Mead of 2.1 maf (with opportunity to increase up to 4.2 maf) System assessment of 5% when ICS is created 	<ul style="list-style-type: none"> Modification of ISG to eliminate Partial Domestic Surplus condition Extension of the modified guidelines through 2026

¹ These are amounts of shortage (i.e., reduced deliveries in the United States). As in the Draft EIS, the Final EIS will include modeling assumptions that identify water deliveries to Mexico pursuant to the 1944 Water Treaty.

Table 3. Comparison of Alternatives - Lake Mead

Lake Mead Elevation (feet msl)	No Action Alternative	Basin States Alternative	Conservation Before Shortage Alternative	Water Supply Alternative	Reservoir Storage Alternative	Preferred Alternative	Lake Mead Storage (maf)
1,220	Flood Control or 70R Surplus	Flood Control or 70R Surplus	Flood Control or 70R Surplus	Flood Control or 70R Surplus	Flood Control or 70R Surplus	Flood Control or 70R Surplus	25.0
1,200	Full Domestic Surplus (through 2016)	Domestic Surplus	Domestic Surplus	Full Domestic Surplus	Normal Operations	Domestic Surplus	22.0
1,145	Partial Domestic Surplus (through 2016)	Normal Operations	Normal Operations	Partial Domestic Surplus	Normal Operations	Normal Operations	16.9
1,125	Normal Operations	Normal Operations	Normal Operations	Normal Operations			13.9
1,100	Shortage 80 Percent Protection of elevation 1,050 feet msl						Voluntary Conservation
1,075	Shortage 333 kaf ¹				Shortage 667 kaf ¹	9.4	
1,050	Shortage 417 kaf ¹	Shortage 833 kaf ¹	7.6				
1,025	Shortage 500 kaf ¹ and Reconsultation ²	Shortage Absolute Protection of elevation 1,000 feet msl	Shortage Absolute Protection of elevation 1,000 feet msl	Shortage 1,000 kaf ¹	Shortage 417 kaf ¹	5.8	
1,000	Shortage Absolute Protection of elevation 1,000 feet msl				Shortage 500 kaf ¹ and Reconsultation ²	4.3	
895							0

¹ These are amounts of shortage (i.e., reduced deliveries in the United States). As in the Draft EIS, the Final EIS will include modeling assumptions that identify water deliveries to Mexico pursuant to the 1944 Water Treaty.

² If Lake Mead falls below elevation 1,025, the Department will initiate efforts to develop additional guidelines for shortages at lower Lake Mead elevations. (Note: Includes re-consultation with Basin States)

Table 2. Comparison of Alternatives - Lake Powell

Lake Powell Elevation (feet msl)	No Action Alternative	Basin States Alternative	Conservation Before Shortage Alternative	Water Supply Alternative	Reservoir Storage Alternative	Preferred Alternative	Lake Powell Storage (maf)
3,700	Equalize or Release 8.23 maf	Equalize or Release 8.23 maf	Equalize or Release 8.23 maf	Equalize or Release 8.23 maf	Equalize or Release 8.23 maf	Equalize or Release 8.23 maf	24.3
Equalization	602(a)	Upper Equalization Line	Upper Equalization Line	602(a)	602(a)	Upper Equalization Line	Equalization
	Release 8.23 maf	Release 8.23 maf; if Lake Mead < 1,075 feet msl, balance contents with a min/max release of 7.0 and 9.0 maf	Release 8.23 maf; if Lake Mead < 1,075 feet msl, balance contents with a min/max release of 7.0 and 9.0 maf	Release 8.23 maf; if Lake Mead < 1,075 feet msl, balance contents with a min/max release of 7.0 and 9.5 maf	Release 8.23 maf	Release 8.23 maf; if Lake Mead < 1,075 feet msl, balance contents with a min/max release of 7.0 and 9.0 maf	
3,595							11.3
3,575					Release 7.8 maf		
3,560		Release 7.48 maf; if Lake Mead < 1,025 feet msl, release 8.23 maf	Release 7.48 maf; if Lake Mead < 1,025 feet msl, release 8.23 maf	Balance contents with a min/max release of 7.0 and 9.5 maf		Release 7.48 maf; if Lake Mead < 1,025 feet msl, release 8.23 maf	9.5
3,525					Balance contents with a min/max release of 7.8 and 9.5 maf		8.3
3,490		Balance contents with a min/max release of 7.0 and 9.5 maf	Balance contents with a min/max release of 7.0 and 9.5 maf			Balance contents with a min/max release of 7.0 and 9.5 maf	5.9
3,370							4.0
							0

Seven Basin States Meeting
Monday June 25, 9 am
Denver, Colorado
Country Inn & Suites DIA
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Denver, CO 80289
(303)375-1105
800-456-4000

AGENDA

1. Introductions
2. Augmentation Study (2 hours)
 - a. Augmentation Study Summary Report (Les Lampe and Ted Way – Colorado River Consultants)
 - b. Work Group Recommendations on Next Steps (Bill Rinne and Others)
A brief power point will be used to walk through this.
- ✓ 3. Updates on Mexico (1 hour)
 - a. Discussion on Secretary Kempthorne's meeting with Mexico (Mark Limbaugh and Bob Johnson)
 - b. Update on Lower Basin States representatives discussions with Mexico (Roger Patterson, Tom Carr, Bill Rinne)
 - c. Next steps.
- ✓ 4. DEIS-Update on the preferred alternative. Report on Results of YDP Demonstration (15 min). (Reclamation)
5. NV's Consumptive Use Accounting letter to Reclamation update. (Nevada)
6. Delivery Agreements updates. (Lower basin representatives)
7. CAP diversion limitations pursuant to the 1968 Act. (Arizona, other states).
8. Vegetative Management/Tamarisk issues update. (California, other states)
9. Weather Modification update. (California, other states)
10. Next meeting date.