

COMMENT LETTER

RESPONSES



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

September 8, 2000

*Approved
9/8/00*

Robert W. Johnson, Regional Director
c/o Jayne Harkins, BC00-4600
Bureau of Reclamation
Lower Colorado River Region
Boulder Canyon Operations Office
P.O. Box 61470
Boulder City, NV 89006-1470

Dear Mr. Johnson:

The Environmental Protection Agency (EPA) has reviewed the draft environmental impact statement (DEIS) for the **Colorado River Interim Surplus Criteria, Colorado River Basin** (CEQ #239). Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The Secretary of the US Department of the Interior (Secretary), acting through the US Bureau of Reclamation (Reclamation), is considering the adoption of specific interim criteria under which surplus water conditions may be declared in the Lower Colorado River Basin during an interim period that would extend through 2015. The interim surplus criteria would be subject to five-year reviews concurrent with the Long-Range Operating Criteria (LROC) reviews, and applied each year as part of the Annual Operating Plan (AOP). To date the Secretary has applied factors, including but not limited to the LROC, in annual determinations of the availability of surplus quantities of water for pumping or release from Lake Mead.

For many years, California has been diverting more than its 4.4 maf apportionment from the Colorado River. Prior to 1996, California drew on unused apportionments of other Lower Division states made available by the Secretary. Since 1996, California has also drawn on surplus water made available by Secretarial determination. California is in the process of developing the means to reduce its annual use of Colorado River water to 4.4 maf (4.4 Plan). Adoption of specific interim surplus criteria would afford mainstream users of Colorado River water, particularly users in California who currently utilize surplus flows, a greater degree of predictability with respect to the likely existence, or lack thereof, of surplus conditions on the river in a given year. Thus, interim surplus criteria would accommodate implementation of California's 4.4 Plan and ease California's transition to living within its basic 4.4 maf apportionment.

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The DEIS considers four interim surplus criteria alternatives as well as a No Action Alternative (baseline). The four surplus criteria alternatives considered are the Flood Control Alternative, Six States Alternative, California Alternative, and Shortage Protection Alternative. In addition, another alternative was announced in the August 8, 2000 Federal Register (Volume 65, Number 153, pages 48531- 48538), herein named the Seven States Consensus Alternative. This alternative is judged by Reclamation to be within the range of the four alternatives evaluated in the DEIS. All alternatives propose Lake Mead water surface elevations which would be used for determining the availability of surplus water through 2015. The Flood Control Alternative is the most conservative, even more than baseline, whereby a surplus condition is determined only when flood control releases from Lake Mead are required. Flood control releases occur only when Lake Mead is near a full condition. The Shortage Protection Alternative is the least conservative since surplus conditions are determined when Lake Mead surface water elevations are relatively low, thus providing for more frequent probability of surplus determinations. The Six States, California, and Seven States Consensus alternatives provide for tiered elevation criteria which could be tied to specific uses of the surplus water. A preferred alternative has not been identified.

The analysis presented in the DEIS is based on a computer model of the operation of the Colorado River system under baseline conditions and the four surplus criteria alternatives. Attributes modeled were Lake Mead and Lake Powell surface water elevations and Lower Colorado River flows from 2000 - 2050. In general, model results for all alternatives, including baseline, indicate that Lake Mead surface elevations are likely to decline over the 50-year period of analysis. This decline is attributed to increasing Upper Basin depletions. The proposed surplus criteria alternatives would increase the rate and magnitude of decline in Lake Mead surface elevations. Since Lake Mead carryover storage helps minimize water supply shortages during dry periods, a reduction in its surface elevation and associated volume could also increase the probable frequency and magnitude of shortages to Lower Basin States and Mexico.

EPA commends Reclamation and the seven basin states for their thoughtful efforts to address the growing need for water supply limits in the Lower Colorado River Basin. The reduction of unused apportionment and increased development in both the upper and lower basins, clearly demonstrate the potential for significant water scarcity and the need for long-term strategies to address future shortages. In fact, EPA advocates operation of the Colorado River system in a way which will provide flexibility to accommodate future shifts in water policy and assure a long-term, sustainable balance between available water supplies, ecosystem health (e.g., in-stream beneficial uses), and water contract commitments. To help provide this flexibility, we urge Reclamation to utilize all available tools for enhancing water management flexibility, supply reliability, and water quality. These tools could include water transfers and exchanges, conservation, pricing, irrigation efficiencies, operational flexibilities, market-based incentives, water acquisition, conjunctive use, voluntary temporary or permanent land fallowing, and wastewater reclamation and recycling. Within the context of interim surplus criteria, we believe the surplus determination should include more specific requirements, such as conservation measures, for efficient and beneficial use of the surplus water.

We strongly support California's reduction of its use of Colorado River water down to its basic 4.4 maf apportionment and acknowledge the need for interim surplus criteria to help ease California's transition. On-the-other hand, interim surplus criteria could incrementally increase

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1: Comment noted.

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2: Comment noted.

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3 the decline of Lake Mead surface water elevations and the probability of more frequent and higher magnitude water shortages to other users of Lower Colorado River water. These effects would contribute to incremental adverse impacts to water supply availability, water quality, hydropower generation, and recreational facilities. Adequate water supply for the Central Arizona Project (CAP) could be significantly reduced since it has the lowest priority water rights. Thus, the CAP would be the first to experience shortages and could be reduced to zero allocation prior to shortages for other higher priority users. In addition, the probable release of surplus and excess flows to Mexico and the Colorado River delta would be significantly reduced to near zero, especially during the 15 year interim period. Thus, the proposed criteria could impact a wide range of water users, and because of that, we are concerned that there is little evaluation of indirect impacts and of mitigation measures for direct, indirect, and cumulative effects.

4 While the DEIS provides a good evaluation of potential direct impacts, the scope of the analysis is limited to the 100-year flood plain and reservoir maximum water surface elevations (pg. 3.2-1). Therefore, indirect impacts caused by use and storage of the surplus water are not addressed. This is of concern because proposed use of surplus water includes groundwater banking in basins that are extremely controversial and/or have not been adjudicated and which do not provide protection for existing users (e.g., Desert/Coachella Basin, Cadiz). In addition, a number of Indian Tribes and their Indian trust assets could be adversely affected by proposed storage actions.

5 We are also concerned by the minimal consideration, description or evaluation of mitigation for identified potential impacts. Although the direct impacts may be an incremental increase above baseline, we strongly believe Reclamation has an obligation to describe and consider mitigation for these impacts. Mitigation for potential increased CAP shortages is of concern, especially for Indian Tribes who have unquantified or outstanding water rights (e.g., Hualapai Tribe) or are dependent on CAP water. The FEIS should describe and consider mitigation for potential impacts on all potentially affected Indian Tribes (CAP and non-CAP Tribes), CAP users, and others who may be interested in CAP water. As stated in the DEIS, Reclamation has an obligation to protect Indian trust assets from adverse impacts resulting from its programs (pg. 3.14-1). Furthermore, in the interest of international cooperation, Reclamation should address the mitigation concerns of Mexico per their request (Attachment Q). The FEIS should describe mitigation options and who could fund and implement them. We note that CEQ regulations state that the EIS should include the "means to mitigate adverse environmental effects." (40 CFR 1502.16(h)).

8 Because of the above significant concerns, we have rated the proposed alternatives and DEIS as EC-2, Environmental Concerns - Insufficient Information (see attached "Summary of the EPA Rating System"). We trust that these comments will assist you in improving the document so that you can move forward with this important action. We urge adoption of a conservative and protective alternative which would maximize long-term operational flexibility, minimize the risk of more frequent and higher magnitude shortages, and ensure aggressive implementation of California's 4.4 Plan.

3: Potential effects on water supply to the lower Basin states, Indian Tribes, and Mexico; water quality; hydropower production; and recreational facilities are discussed in the EIS. Determining the effects on individual water users is beyond the scope of the EIS. Flows to Mexico and potential transboundary effects are discussed in Section 3.16.

4: Because the proposed action is implementation of interim surplus criteria (surplus has and will be delivered under the No Action Alternative/AOP), Reclamation has determined that analysis of potential indirect effects associated with the use of Colorado River water is outside of the area of potential effect as defined in the EIS and is not within the purview of Reclamation's Federal action or the NEPA process being conducted for interim surplus criteria. The indirect effects analysis from the use of any Colorado River apportionment is the responsibility of the California parties and any other state users. It should be noted that California's Colorado River depletion has been 600-800 kaf over their 4.4 apportionment for a number of years. This demand has been met historically through unused apportionment and surplus deliveries.

5: No significant impacts have been identified that require specific mitigation. However, Section 3.17 has been added to the FEIS to discuss environmental commitments that Reclamation would commit upon adoption of interim surplus criteria through the Secretary's Record of Decision.

6: The CAP master contract, through which the Tribes receive water has no guarantee of the availability of water. The Department is of the opinion that the trust asset in this case is the contract the Tribes have for delivery of CAP water. This contract has fully disclosed the potential diminishment of the water. The EIS, in Section 3.14.3 has fully disclosed the impacts of this action to the delivery of CAP water.

7: Potential effects in Mexico will be addressed through continued coordination with Mexico.

8: Comment noted.

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We appreciate the opportunity to review this DEIS. Please send three (3) copies of the Final environmental impact statement to this office at the same time it is officially filed with our HQ Office of Federal Activities. If you have any questions, please call Laura Fujii, of my staff, at 415-744-1601, email: fujii.laura@epa.gov.

Sincerely,



Deanna Wieman
Deputy Director
Cross Media Division

File: intercri.wpd
Main ID# 003345

Enclosure: Detailed Comments (8 pages)
Summary of the EPA Rating System

cc: Patricia Port, Office of Environmental Affairs, US Department of Interior
US Fish & Wildlife Service, Arizona and California Ecological Services Field Office
US Geological Survey, Water Resources Division, Yuma, AZ.
Bureau of Indian Affairs, Phoenix Area Office
US IBWC, Environmental Management Division
Charles Keene, CA DWR

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DETAILED COMMENTS

ENVIRONMENTAL ANALYSIS

Indirect and Cumulative Impacts

- 9 | 1. The implementation of interim surplus criteria releases are key to the implementation of California's 4.4 Plan and its transition down to its basic Colorado River apportionment. California would receive surplus water which it can store for future use when surplus is not available and prior to achieving its 4.4 maf demand goal. The FEIS should fully evaluate the potential indirect and cumulative impacts of storage and use of surplus water obtained pursuant to the interim surplus criteria.
- 10 | 2. One tool which California could use to store surplus water is provided by Reclamation's Off-Stream Storage Rule. This rule allows storage and transfer of water between lower Basin States. The DEIS does not mention the Off-Stream Storage Rule or how it relates to interim surplus criteria and implementation of California's 4.4 Plan. The FEIS should describe the Off-Stream Storage Rule, its role in water management of the Lower Basin States, and potential indirect and cumulative impacts of storage of surplus water pursuant to this Rule. Of specific concern are potential effects to Tribal Trust lands especially where there is a shared aquifer that is not adjudicated.
- 11 | 3. It is our understanding that surplus water allocated to California could be used for groundwater banking within the Cadiz Basin, Hayfield/Chuckwalla Basin, and Desert/Coachella Basin. While these groundwater basins may already be used for water banking, the potential increase in surplus water could significantly alter their management and rate of use. Furthermore, there is a significant concern regarding potential adverse effects to groundwater quality from the injection of lower quality Colorado River water. The FEIS should fully evaluate potential indirect and cumulative impacts of storage of surplus water in these groundwater basins. In addition, the FEIS should describe management of these groundwater basins, for example, storage criteria, extraction of stored surplus water, and protections for users of a shared aquifer.
- 12 | **General Environmental Analysis Comments**
1. The environmental analysis is based upon computer models simulating potential future Lake Mead and Lake Powell surface elevations and flows in the Lower Colorado River. Many model assumptions are made (pg. 3.3-9). Given the large number of assumptions, the FEIS should include sensitivity analyses for those parameters which may be especially vulnerable to slight changes in assumptions, e.g. fisheries and sensitive species. Parameters which may be of

9: The direct, indirect, and cumulative effects of the interim surplus criteria alternatives were analyzed within the project area, which extends from the upper reaches of Lake Powell to the Southerly International Boundary with Mexico within the 100-year floodplain. Off-river effects of storage and use of surplus water have been or are being addressed in existing or ongoing NEPA and/or California Environmental Quality Act and California Endangered Species Act compliance documents as appropriate. These activities are authorized by state actions. These include the Quantification Settlement Agreement PEIR, Secretarial Implementation Agreement EA, IID/SDCWA Transfer EIS/EIR, and the San Diego County HCP. The federal government does not have jurisdiction over groundwater aquifers, recharge sites or other off-stream storage sites within the States.

10: The Rule would establish the procedural framework for the Secretary to follow in considering, participating in, and administering Storage and Interstate Release Agreements (SIRA). The Rule establishes a framework only and does not authorize any specific activities. The Rule is based on the understanding that this type of offstream storage is a beneficial use of Colorado River water. To date no SIRA have been received by Reclamation for review and approval. California, specifically MWD, has voiced interested in interstate storage in Arizona. However, the quantity of water for storage and retrieval is substantially in excess of what is permitted by law for the Arizona Water Banking Authority. MWD's schedule for storage and retrieval also does not comply with Arizona State law. It is unknown if MWD would revise its proposed storage and retrieval quantities and schedule to meet Arizona law or if Arizona would amend its law. It is highly speculative if interstate banking under the Rule would benefit MWD considering MWD's development of its own storage facilities for intrastate storage purposes. It should be noted that California entities have and are presently storing portions of their basic and surplus apportionments for intrastate purposes. Interim surplus is unlikely to vary in quantity or quality from surplus Colorado River water already delivered. Intrastate storage activities/facilities are not within Reclamation's jurisdiction but are regulated by state and local regulations and compliance requirements under the California Environmental Quality Act (CEQA). Some groundwater projects may require Federal permits or approvals thus a joint CEQA/NEPA may be prepared for the Cadiz, Hayfield/Chuckwalla , and Desert/Coachella projects. A draft EIR/EIS and Supplement for the Cadiz project has been published. Environmental documents for the latter two projects are in progress.

11: Comment noted. See response to Comment 56-10.

12: The FEIS includes sensitivity analyses related to California intrastate transfers and the Lake Mead elevation at which shortage is declared.

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- cont'd | critical concern to the Basin States, such as level of water supply depletions during shortages, should also be considered for sensitivity to different model assumptions.
- 13 | 2. The DEIS states that interim surplus criteria alternatives are not expected to affect flows in the Colorado River between Glen Canyon Dam and Lake Mead because it is assumed flow release patterns would be determined by the Glen Canyon Adaptive Management Program pursuant to the Glen Canyon Dam Operations Record of Decision (ROD) (pg. 3.2-5, 3.9-33). Although the Glen Canyon Adaptive Management Program would still be in effect, the timing and magnitude of releases from Glen Canyon Dam could be influenced by interim surplus criteria and subsequent equalization requirements between Lake Powell and Lake Mead. We note that even slight changes in flows can significantly alter the configuration of whitewater rapids within the Grand Canyon changing the level of risk and safety. The FEIS should include a summary of the Glen Canyon Dam Operations ROD and additional data supporting the assumption of no affect on river flows.

WATER NEEDS ASSESSMENT

- 15 | EPA has concerns with both the assumptions and calculation methods for water needs projections. The DEIS appears to use water supply projections provided by the States. It is not clear whether Reclamation has evaluated these projections to determine whether they are fully protective of beneficial uses, ensure efficient use of water, and integrate aggressive water conservation and demand management. We recommend the FEIS describe the processes used by the States to derive their water supply projections and whether these methods assure that water would not go to waste, go to environmentally harmful areas, or hinder achieving water quality objectives within the scope of applicable state water law.

TRANSBOUNDARY EFFECTS

- 16 | 1. Interim surplus criteria could reduce by up to 37% the frequency of Mexico receiving surplus water (pg. S-14, Section 3.16). The release of excess flood flows could also decrease. The lower frequency of surplus water and excess flood flows to Mexico could significantly reduce the amount of flows reaching the Colorado River Delta (Delta). Historically, the Delta was an extensive and rich wetland area of significant cultural and economic importance to the Cocopah Indian Tribe and other Mexicans of the Gulf of California. Already greatly depleted and only recently partially revived by excess flood flows, further reduction of Colorado River flows could have adverse effects on Delta wetlands and hinder efforts to restore this area.
- We urge Reclamation to actively work with Mexico, the International Boundary and Water Commission (IBWC), States, Federal agencies and other stakeholders in restoration of the Delta region. We understand that such a process is under development. We would like to be

13: The Bureau has determined that the Adaptive Management Program will protect whitewater boating opportunities in the Colorado River between Lake Powell and Lake Mead in compliance with the Grand Canyon Protection Act. Therefore, the interim surplus criteria would not adversely affect whitewater boating opportunities in the Colorado River. The Grand Canyon Protection Act directs the Secretary, among others, to operate Glen Canyon Dam in accordance with the additional criteria and operating plans specified in section 1804 of the Act and to exercise other authorities under existing law in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established, including but not limited to the natural and cultural resources and visitor use. The Glen Canyon Dam Adaptive Management Program (AMP) was established as a Federal Advisory Committee to assist the Secretary of the Interior in implementing the Grand Canyon Protection Act. We agree that interim surplus criteria could have an influence on releases from Glen Canyon Dam; however, releases will continue to be governed by the criteria in the Record of Decision which was developed in full consideration of both the safety and quality of recreational experiences in Glen and Grand Canyons. A summary of the Glen Canyon Dam Record of Decision has been included as Appendix D of this document.

14: The ROD for the Operation of the Glen Canyon Dam is included as Attachment D. Pertinent information from it is summarized in various sections throughout the FEIS. The section on river flows (3.6) identifies that the action alternatives would have an effect on the frequency of Beach/Habitat-Building Flows and Low Steady Summer Flows.

15: Reclamation does not review and independently change the Tribes and States water supply projections, though Reclamation staff has some understanding of the calculation methods used. See response to Comment 56-29 of this letter for a complete description of Reclamation's process for assuring the beneficial use of Colorado River water.

16: The delivery of water to Mexico under all modeled conditions in this FEIS were consistent with the requirements of the Treaty. The diversion and use of such Treaty water is solely at Mexico's discretion. The delivery of excess flows to Mexico occurs when available flows in the Colorado River exceeds that amount that is necessary to meet the beneficial needs and uses of Lower Basin users in the United States. It is not within Reclamation's discretionary authority to make unilateral adjustments to water deliveries to the international border. Also, as mentioned in response to Comment 56-7, potential effects on habitat and special status species along the river in Mexico and efforts to restore the Delta are being addressed through continued coordination with Mexico. The Executive Order on Environmental Effects Abroad, as discussed by section 3.16.2, focuses on impacts to natural resources, and specifically excludes consideration of socioeconomic impacts.

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cont'd | active participants in this process. When appropriate, please contact Catherine Kuhlman of our Water Division at 415-744-2001, regarding upcoming meetings and forums. Per Mexico's request (Attachment Q), the FEIS should describe mitigation for possible transboundary impacts and means to address the concerns of Mexico. Potential indirect and cumulative impacts to the Cocopah Indian Tribe and Mexican residents of the Gulf (e.g., shrimp fisherman) should also be acknowledged and described in the FEIS.

17 | 2. Describe in the FEIS what water is used to satisfy the 1.5 maf allocation to Mexico. Is this water part of the 7.5 maf allocated to the Lower Basin States? Is it taken from unused Lower Basin States' apportionment? or Is this water taken equally from the upper and lower basins? Describe where this water would come from under shortage conditions.

WATER QUALITY

18 | 1. The DEIS appears to address only salinity (total dissolved solids) and potential impacts to the Southern Nevada Water Authority (SNWA) drinking water intakes in Lake Mead. EPA is significantly concerned with the potential impacts of interim surplus criteria on perchlorate, nutrients, and mercury in fish tissue. It is clear that Lake Mead surface elevation and volume would decrease thus reducing dilution effects and potentially changing contaminant movement from Las Vegas Wash and within Las Vegas Bay (Section 3.5). The FEIS should evaluate the potential direct, indirect, and cumulative effects of interim surplus criteria on the concentration and movement of perchlorate, nutrients, mercury and other heavy metals within Lake Mead and downstream. Modeling and monitoring of these contaminants and projection of downstream flows may be needed. Amounts of mercury and other heavy metals in fish tissue should be described more accurately. These contaminants are of grave concern because of their potential adverse health effects.

19 | 2. Perchlorate contamination is already known to travel down to the international border. Thus, the FEIS should evaluate potential contaminant impacts to drinking water intakes below Lake Mead. Of special interest are the intakes for MWD's California Aqueduct, especially since the interim surplus criteria will be providing more water for MWD.

20 | 3. Lower Lake Mead surface elevations could result in a reduction in water quality from tributaries (pg. 3.5-22). The reduced water quality is a result of longer channels, more evaporation and heating, and the resulting greater concentration of contaminants. The DEIS states that this adverse effect may be offset by the development of riparian habitat at the mouths of the tributaries which would help filter the water. If this is the case, Reclamation should consider sponsoring efforts to restore tributary wetlands as mitigation for reduced water quality. For example, there is a major effort to restore the historical wetlands of Las Vegas Wash which Reclamation could actively support.

17: The U.S.-Mexico Treaty of 1944 guarantees an annual quantity of 1.5 maf to Mexico. This quantity is a scheduled delivery from Lake Mead, in addition to the 7.5 maf allocated to the Lower Division states. The Colorado River Compact of 1922 stated that if this right was recognized, the water would be supplied by water over and above the Basin States apportionment of 16 maf, and that if such water was insufficient, any deficiency would be borne equally by the upper and lower basin. Under shortage conditions, Article 10 (b) of the Treaty states "in the event of extraordinary drought or serious accident to the irrigation system in the United States....the water allotted to Mexico....will be reduced in the same proportion as consumptive uses in the United States are reduced."

18: Comment noted. Additional information regarding contaminants has been added to Section 3.5 of the FEIS.

19: Through a 1999 consent agreement with the Nevada Department of Environmental Protection, remediation of perchlorate in groundwater entering Las Vegas Wash and Lake Mead will continue into the future which will reduce the concentration of perchlorate down river, at the MWD intake, and below this point. It is expected that the California standard of 18 ppb for drinking water will not be exceeded but reduced in Colorado River water through time. See also response to Comment 56-18.

20: Reclamation is a partner in the Las Vegas Wetland Restoration program and other programs around Lake Mead and along the Lower Colorado River.

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ALTERNATIVES ANALYSIS

Seven States Consensus Alternative

1. Since the alternative announced in the August 8, 2000 Federal Register (Volume 65, Number 153, pages 48531- 48538) appears to represent a consensus agreement between the seven basin states, we anticipate the selection of this alternative as the preferred alternative in the FEIS. As such, we urge Reclamation to provide a full description and environmental evaluation of this alternative in the FEIS. While this alternative may be within the range of the alternatives evaluated in the DEIS, we believe it is important to include a full evaluation of its potential effects in the FEIS to provide a clear comparison with other proposed alternatives. This comparison is of special interest because the Seven States Consensus alternative appears to propose significantly more complex criteria and a shortage determination elevation well below existing management triggers or those proposed by the other alternatives.

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As stated, the Seven States Consensus Alternative appears to propose a shortage determination criteria of 20% or greater probability of going below a Lake Mead surface elevation of 1050 msl. This shortage criteria is of significant concern because it is well below the minimum elevation level required for power generation (1083 msl). In addition, reduction of Lake Mead surface elevations below 1050 msl could have significant adverse effects to recreation, water quality, and future water supplies.

2. Give the close link between interim surplus criteria and transition of California down to its 4.4 maf basic apportionment, we are pleased with the proposed review of progress in implementation of California's 4.4 Plan and the specific California water conservation targets set out in the Seven States Consensus Alternative.

3. The Seven States Consensus Alternative includes a commitment by the Metropolitan Water District (MWD) to reparation to Arizona for increased water supply shortages. This reparation would be by MWD agreement to forbear the delivery of a specific quantity of Colorado River water. It appears that the water which would be foregone by MWD would be Priorities 6 and 7 water. The FEIS should describe how this reparation would work, especially in the likely shortage years when water may not be sufficient to provide for priorities 6 and 7 water.

General Alternatives Analysis Comments

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1. We strongly recommend anticipated storage and use options for the surplus water be described (e.g., groundwater banks, storage reservoirs, recharge basins). Although these options may already be in use, water available pursuant to interim surplus criteria could significantly modify the management of these facilities and the rate and magnitude of indirect effects.

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21: The preferred alternative in this FEIS was derived from the draft Seven States Proposal, and was evaluated at the same degree of detail as the other alternatives. Reclamation did not structure the preferred alternative precisely as described in that draft proposal, but made some changes for consistency with the purpose and need of the proposed action, Reclamation policy and operational procedures. The proposed shortage determination criteria were not included in the preferred alternative. Reclamation regards California's proposed reparation to Arizona for increased shortages as a matter between California and Arizona, and has not included the reparation in this FEIS. The Secretary intends to honor reparation agreements among various entities.

22: Reclamation does not federalize intrastate uses of Colorado River water and does not follow the water for environmental compliance purposes once delivered to a water user's point of diversion. The federal government does not have jurisdiction over groundwater aquifers, recharge sites or other off-stream storage sites within the States. Those activities are authorized by state and local actions. Other federal permits and environmental compliance may be required for specific facilities on a case by case basis. See also response to Comment 56-10.

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23 | 2. The DEIS states that the Flood Control Alternative conditions were modeled with the assumption that California's 4.4 Plan was not implemented (pg. 3.3-9). The FEIS should describe the rationale for this modeling assumption. Was the assumption made that the 4.4 Plan would not be implemented because the probability of surplus determinations under the Flood Control Alternative is even lower than baseline?

23: Implementation of the California Plan and intrastate transfers was included in the FEIS Flood Control alternative. See response to Comment 37-11 for more details.

24 | 3. While other Lower Basin States may receive less than their full apportionment under shortage conditions, the DEIS appears to assume that California would never receive less than 4.4 maf/year (pg. 3.4-20). Is this assumption made because 4.4 maf is already considered a shortage condition for California? Is this assumption valid? Are there conditions under which California may be unable to receive its full basic apportionment?

24: Shortage conditions for the Colorado River have not been defined. They were assumed for modeling purposes in the EIS. Section 3.3.3.4 describes the Lake Mead water level protection assumptions and the modeling conditions under which California could receive less than its normal apportionment.

25 | 4. Instead of referring to Attachment G, Lower Division Depletion Schedule and H, Draft Interim Surplus Guidelines; we suggest the description of alternatives include a summary of the information provided in these attachments. For example, describe the percentage of years that water transfers would occur to California under Tier 2 of the Six States Alternative versus just referencing Attachment G. The alternative descriptions should also include specific information on the water use restrictions which would apply for each surplus criteria tier. For instance, what types of storage and use would be acceptable for surplus water obtained during a Partial Domestic Surplus year pursuant to the Seven States Consensus alternative?

25: See Attachment H for additional information.

26 | 5. The FEIS should also provide short narratives explaining how the Lower Division Depletion Schedule (Attachment G) and Draft Interim Surplus Guidelines (Attachment H) would be interpreted. How would the Guidelines work if different surface elevation levels are triggered in different years? For example, if surplus is declared under Tier 3 of the Six States Alternative in 2002, what would be the amount of surplus released in year 2005, if surplus were declared under Tier 2 in 2005? Providing a simple example of how the Guidelines would be implemented would be helpful.

26: Additional discussion has been added to the Lower Division Demand Schedules (FEIS Att. H) regarding the influence on surplus water deliveries. The guidelines (FEIS Att. I) would be applied annually to whatever water surface elevation existed.

27 | There is a similar risk of confusion regarding the California Alternative. This alternative appears to trigger surplus determination based on a prediction of what surface elevation levels would be achieved in the year 2015. For instance, what surplus would occur if 2015 surface elevations are at 1166 msl and 2001 surface elevations are at or above 1098 msl?

27: The surplus triggers would be used once a year to determine whether surplus conditions would occur in the following year. For example, in August 2007, while preparing the AOP for 2008, Reclamation would project the January 1, 2008 Lake Mead elevation using our 24 month study (2 year model). If the water surface elevation of Lake Mead were projected to be above approximately 1163 ft, the surplus volume stipulated for Tier 1 for 2008 would be triggered for delivery during 2008, regardless of the resulting lake level within year 2008. The monthly delivery to each Lower Division state would be according to its monthly surplus water demand schedule for Tier 1. In addition, the amount of surplus water allowed for delivery in 2008 would be subject to a determination of beneficial use by the Regional Director, Lower Colorado Region.

MONITORING AND ADMINISTRATION

1. A key objective of interim surplus criteria is to provide MWD surplus water, when available, to meet direct water supply demands while California's 4.4 Plan programs and projects are implemented, as well as to provide a source of water for conjunctive use and storage programs (pg. 12 August 8, 2000 Federal Register Notice on Seven States Consensus

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28 Alternative). Therefore, Reclamation states that failure of California to carry out the 4.4 Plan may result in termination or suspended application of the 15-year interim surplus criteria (pg. 1-22). A condition of interim surplus criteria continuation would be a showing of satisfactory progress in implementing the 4.4 Plan. The FEIS should provide more details on how "satisfactory progress" would be defined and measured. For example, describe how water conservation will be interpreted, monitored, and accounted for under California's 4.4 Plan.

29 2. The FEIS should also describe how surplus water would be monitored and measured. Effective and sustainable management of water supplies depends on an accurate knowledge of water supply availability and water use. This knowledge can only be obtained through monitoring and accounting of water supply and use. We urge Reclamation to make a firm commitment to timely and accurate monitoring and accounting of the surplus water depletions. We recommend a monitoring and accounting plan be included in the FEIS.

30 3. Attachment D Surplus Criteria Proposal by Six States includes a section requesting a commitment by Reclamation to move forward with its identification of Lower Basin water users who are either exceeding contract entitlements or are diverting water without a contract. Furthermore, it states that Reclamation must take steps necessary to require more accurate measurement and reporting of diversions and develop accurate techniques for determining both measured and unmeasured return flows to the river. EPA concurs with this statement of the Six States. We also firmly believe that an era of limits in the Lower Basin has begun and that accurate measurement of use and control of illegal diversions and uses is critical to the long-term sustainable use of the Colorado River water supply.

MITIGATION

31 1. The FEIS should describe whether MWD would provide reparation for increased shortages to specific Indian Tribes which are dependent upon CAP allocations. If reparation is not proposed, the FEIS should describe mitigation measures for potential adverse effects to Indian Tribes and their Indian trust assets.

32 2. Reparations to Nevada for potential increased shortages are also not described. The FEIS should provide the rationale for this decision.

TRIBAL ISSUES

33 1. Section 3.14 describes potential impacts to Indian trust assets. While Reclamation appears to have coordinated closely with the Ten Colorado River Tribes and Tribes utilizing Central Arizona Project (CAP) water, it is not clear whether the concerns of Tribes located in shared water basins/aquifers where the surplus water would be stored have been addressed. The

28: The purpose of this action is not to get California to 4.4 maf and thus the 4.4 Plan (now the CA Plan) is not within the scope of this EIS. Water transfers within California and their effects on and off the river are being handled by joint and separate NEPA and CEQA documentation. Through monitoring, verification, and accounting of all users uses, particularly as California begins to implement transfers and develop conservation programs, these data will be considered as part of the AOP process for measuring California's success in reducing its use to 4.4 maf. This description of monitoring, verification, and accounting of water use involves ongoing Reclamation processes that are outside the purpose and need of this action.

29: Reclamation is currently and has been monitoring diversions, return flows and consumptive uses by water users along the Colorado River since 1964. Reclamation is required by the Supreme Court (Article V, Supreme Court Decree in Arizona v California dated March 9, 1964) to prepare and maintain complete, detailed and accurate annual records of: releases of water through regulatory structures, diversions, returns and consumptive uses by State and diverter, water ordered but not diverted, and deliveries to Mexico in satisfaction of their entitlement. Reclamation began preparing this report in 1964. Since then, the accounting and monitoring procedures have been augmented with a monthly report tracking users diversion, returns and consumptive uses throughout the year. In addition to the monthly reporting and end of year accounting, Reclamation approves water use estimates by major water users before the beginning of each calendar year. Title 43, CFR 417 requires entitlement holders to provide an estimate of monthly diversion requirements (schedule), for Reclamation's planning purposes, prior to the beginning of the calendar year. The major water users are also required by contract to provide a monthly water use report which includes actual diversions and return flows. Others either report annually or have diversions and return flows reported by the USGS at the end of the year. This information is reported to all interested parties in the monthly reports and the annual report titled "Compilation of Records in Accordance with Article V of the Decree of the Supreme Court of the United States in Arizona V. California, Dated March 9, 1964." The schedules are reviewed by the water conservation, water contracts, and water operations staff to ensure that the next year demands do not exceed contract holders entitlements and that the water requested will be available in the system. Monthly reports are tracked throughout the year to monitor trends in water use which indicate when users are likely to exceed their entitlements. When surplus water is available, entitlement holders are allowed to divert up to their entitlement for surplus water, if any, in addition to their basic entitlement for a normal year in which no surplus would be available. How much surplus water was diverted by an entitlement holder can be determined only at the end of the calendar year by comparing the actual use, as reported in the Decree Accounting report, to their entitlement. Reclamation is developing a method to compare actual use to entitlements for the purpose of identifying surplus uses and uses in excess of entitlement.

30: Reclamation is taking steps to require more accurate measurement and reporting of diversions and return flows to the river. The most common case of water users who divert water without a contract involve persons who divert water from a well that is replaced with Colorado River water. Reclamation is, and for the last 5 years has been, funding the Geological Survey to perform an inventory of wells in the Colorado river flood plain and on adjacent terraces and slopes that have the potential to pump Colorado River water. The Geological Survey, at Reclamation's request and with Reclamation funding, has completed two reports which document a method for use in making a presumption if the use of water pumped by a well is pumping Colorado River water. The first report, published in 1994, provides a method of accounting for the lower Colorado River between the mouth of the Grand Canyon and Laguna Dam. The second report, published in 2000, provides a method of accounting for the lower Colorado River from Laguna Dam to Mexico. All uses of Colorado River water must be reported in the Colorado River water accounting report required by the Supreme Court (Article V, Supreme Court Decree in Arizona v California dated March 9, 1964). To date, the initial well inventory is about half complete and the methods documented in the reports identified above have been used to presume if new or planned wells would likely pump water that should be accounted for as Colorado River water. Few existing wells have been made subject to the methods described within the above identified reports. Reclamation recognizes that the accounting of water required by the Supreme Court must include accurate records of diversions, return flows, and consumptive use. Past efforts to uniquely and separately identify unmeasured return flows for individual diverters have met with mixed success. While estimates for many diverters currently exist, they cannot be considered definitive. Reclamation and others recognized many years ago that estimates on unmeasured return flows could not be made without first estimating consumptive use by some method other than measured diversion less measured return. To this end, the lower Colorado River Accounting System (LCRAS) was developed to estimate agricultural consumptive use as the evapotranspiration of the crops and related uses plus a portion of the residual of a water budget between major structures along the lower Colorado River. CONTINUED ON NEXT PAGE

COMMENT LETTER

RESPONSES

DEIS COMMENTS, BOR, INTERIM SURPLUS CRITERIA, SEPT. 2000

cont'd

FEIS should include more specific information on the government-to-government meetings held with all potentially affected tribes, a list of each Tribes' concerns, and how these concerns have been addressed. We are especially interested in how Indian trust assets would be protected in unadjudicated shared water basins/aquifers.

34

2. The majority of Section 3.14 is focused on potential impacts to Tribes that utilize CAP water. The evaluation is confusing because it refers to the loss of Non-Indian Agriculture water when discussing losses to Indian Central Arizona Project customers. We suggest providing a table with data of the potential loss of water to the Tribes (either collectively or for each Tribe) for each interim surplus criteria alternative for 2015 and 2050 with the assumption that the Gila River Indian Community Settlement has been implemented.

BIOLOGICAL EFFECTS

35

1. The DEIS appears to focus on potential impacts to special species within the region encompassed by Lake Mead, Lake Powell, and the Grand Canyon between Glen Canyon Dam and Lake Mead. It is not clear how extensively potential impacts to species below Lake Mead were addressed. We recommend the FEIS include, at least a summary, of potential impacts to biological resources in each of the significant reaches of the river (Lake Powell, Glen Canyon Dam to Lake Mead, Lake Mead, and below Lake Mead to the International Border).

36

2. Although the DEIS references the Biological and Conference Opinion on Lower Colorado River Operations and Maintenance (BCO), it does not provide a summary of the 17 specific provisions made pursuant to the reasonable and prudent alternative as defined by the BCO. We recommend the FEIS provide this summary in order to provide a clear picture of what actions Reclamation is taking to benefit the riparian region of the lower Colorado River and its special status species.

37

3. We note that a separate Section 7 Endangered Species Act consultation is being conducted for this DEIS (pg. 1-25). We understand that consultation is not yet complete and that there is the intent to include consultation results in the FEIS. EPA supports this intent and urges Reclamation to make a firm effort and commitment towards completing consultation and providing a copy of US Fish and Wildlife Service decision within the FEIS.

38

GENERAL ISSUES

1. The DEIS states that the All-American Canal is used to divert water for Mexico (pg. 1-19). The FEIS should provide a short description of how this is done or provide this information on one of the project maps.

30 (cont'd): LCRAS is fully functional and is undergoing a demonstration phase. The LCRAS program has also funded a study by the Geological Survey to determine the standard error of estimate of the stream-flow gages along the mainstream used by the LCRAS water budget. The results of this study will not only improve LCRAS, but will also identify and quantify the practical limits of water measurement capabilities with the current measurement network in place; providing the basis for an analysis of technically feasible and economically justifiable modifications to the current water-measurement network. The effort to identify diverters who exceed their entitlements includes an analysis of water use by riparian vegetation within diverter boundaries to determine the proper portion of water use by riparian vegetation that should be included in the consumptive use calculation for each diverter. The implementation of LCRAS, together with a determination of what portion of water use by riparian vegetation should be charged to each diverter, will provide a complete and supportable value of consumptive use that can be compared with the contract entitlement of the diverter.

31: See response to Comment 56-6. Reparations as provided in the Working Draft of the Seven States Plan would assist all users of CAP water.

32: Reclamation is not proposing to make reparations part of the interim surplus criteria.

33: This issue is handled by an overall settlement in central Arizona between the United States and the CAWCD. The United States has made agreements which protect the Indian portion or interest in a shared aquifer. In addition, the storage of surplus water in an aquifer in a shared basin is considered a positive impact by tribes located within shared water basins because the water stored in the aquifer is increased. Chapter 5 has more specific information regarding the consultations with the Tribes.

34: Some non-Indian agricultural water has been reallocated to Indian users of CAP water. When non-Indian agricultural water is allocated to Indians, the water retains its non-Indian agricultural priority and is referred to as "non-Indian agricultural water". Table 3.14-4 shows the potential loss of water by tribes under the GRIC Settlement. Line 3 of the title of Table 3.14-4 has been corrected to read, "Likely Future With GRIC Settlement."

35: Additional analysis of potential effects below Lake Mead have been incorporated into Section 3.5, Water Quality, Section 3.7, Aquatic Resources, (potential effects of changes in Hoover Dam release water temperature on fisheries below Hoover Dam to Lake Mohave), and Section 3.8 to discuss potential effects between Hoover Dam and the SIB.

36: The noted documents are incorporated by reference and are available for review by the public at Reclamation's Office. The BCO has been provided to interested public and agencies and is available on Reclamation's web site.

37: Section 7 consultation is in progress.

38: Please refer to Section 3.3.4.5.4 for a description of river flows below Imperial Dam and delivery of water to Mexico.

COMMENT LETTER

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- 39 | 2. Chapter 3 Affected Environment and Environmental Consequences often illustrates potential effects using figures and charts (e.g., Figure 3.3-19a-d, Figure 3.4-6). We suggest providing an explanatory example on how to accurately interpret these figures and charts.
- 40 | 3. Modeled annual depletions of various interim surplus criteria (e.g., Figure 3.4-12, pg. 3.4-22) indicate surplus conditions for the period 2001 to 2004. The FEIS should provide an explanation for this surplus. Is the high level of depletions available for these years because the system is already relatively full and can therefore provide surplus water for the next few years? or is this surplus due to the continued availability of unused Arizona apportionment?

39: Additional explanation has been added to Section 3.3 and Section 3.4 with respect to the interpretation of the figures in these sections and the meaning of the analysis results.

40: The observed surpluses are due to relatively full starting conditions of Colorado River reservoirs. You will notice that the FEIS graphs have been modified. See Section 3.3.4.1 for a detailed explanation.

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The 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)

The 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 the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must 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)

The 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 potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CFQ.

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 or 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 analysed 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 analysed in the draft EIS, which should be analysed 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 NEPA 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."