STATE AGENCIES

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BCOO-4600

Regional Director
Lower Colorado Region
U.S. Bureau of Reclamation
c/o Ms. Jayne Harkins
Attention BCOO-4600
P.O. Box 61470
Boulder City, Nevada 89006-1470
Fax Number (702) 293-8042

September 7, 2000

Re: Comments Upon the Colorado River Interim Surplus Criteria- Draft Environmental Impact Statement; 65 Federal Register 47516 (August 2, 2000)

Dear Ms. Harkins:

Please accept the following comments from the Arizona Power Authority (Authority) relating to the Draft Environmental Impact Statement for the Colorado River Interim Surplus Criteria. The Secretary of the Interior acting through the United States Bureau of Reclamation is considering adoption of criteria under which surplus water conditions may be declared in the Lower Colorado River Basin through the Year 2015. The purpose of the criteria is to ensure that the State of California returns to its proper allocation of 4.4 million acre feet of Colorado River water pursuant to the U.S. Supreme Court Decree in Arizona v. California and pursuant to Article III(3)(b) of the Criteria for Coordinated Long Range Operation of the Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (Long Range Operating Criteria).

The Arizona Power Authority (Authority) is a public power marketer charged under Arizona State laws with responsibility for taking and marketing the State of Arizona's allocation of 377 megawatts of hydroelectric power from Hoover Dam. The Authority markets the Hoover power to 31 entities including a number municipalities and electrical and irrigation districts throughout the State of Arizona.

The Authority submits the following comments on the Draft Interim Surplus Criteria EIS:

1 | Scope of Draft EIS- Integrated Resource Planning. The Authority notes that historically that water and power resource issues on the Colorado River have been analyzed and recognized as a concomitant pair. We are concerned here that the Draft EIS does not

1: Comment noted. Reclamation believes that the level of analysis for energy resources presented in the FEIS, Section 3.10, appropriately identifies the potential effects of interim surplus criteria.

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adequately recognize or analyze power generation in implementing any of the four potential Interim Surplus Criteria Alternatives.

For example Table 2-1 goes into extensive detail as to the impacts of the various four alternatives- yet dedicates only two short sentences to hydroelectric power production: ""Flood Control Alternative would be similar to baseline," and "average energy increase of <1% to 2015; decrease of 1% to 2035."

Indeed even the assumption of impacts in these two short sentences are at odds with the apparent impacts to hydroelectric power production as reflected in numerous Figures contained in Section 3.3 of the Draft EIS. The whole issue of hydroelectric power production needs greater consideration in the Draft EIS- especially since Hoover Dam power facilities play an integral role in the reliability of the power system's in the Southwest.

2

Impacts Upon Hoover Dam Hydroelectric Production. Modeled End-of-Calendar Year Lake Mead and Lake Powell Water levels Contained in Figure S-1 reflect potentially serious reductions in power production, particularly for Hoover Dam. See e.g. Figure 3.3-14 on page 3.3-27 which shows the median trend to lower elevations. Indeed that Chart reflects that the 35th Percentile Curve would approach Hoover Dam's Minimum Power Pool elevation of 1083 feet- i.e. Hoover Dam would produce no hydroelectric power at all.

3

Modeled vs. Actual Lake Mead Inflows and Impact of Drought Years . The Draft EIS bases much of its analysis of the Alternatives on "representative seasonal flows" as noted for example, on Figures 3.3-18 (a-d). The Authority is seriously concerned that the modeled flows do not comport with the actual historical unregulated flow data into Lake Mead

We have attached a chart to show the historical unregulated flow data and average flow into Lake Mead from 1968-1997. When reviewing the data several points become apparent. First we were in an above average inflow mode for 1996-1997. Second drought periods occur for extended multi- year periods such as from 1988 through 1993 when annual inflows reached as low as 40% of normal.

In extended drought periods it seems unfair from a water perspective not to suspend or alter the applicability of the Interim Surplus Criteria, so that California shares in the natural occurring impacts of the drought period too.

Next the actual inflow data calls into very serious question the assumption in the Draft EIS (noted above in Table 2-1) that through 2015 there will be an average increase in power generation of less than one percent. In fact, in extended drought periods of more than one year (which are common) the power generating capability of Hoover Dam may be seriously and significantly impaired under all of the Alternatives.

2: Comment noted. Figure 3.3-15 of the FEIS presents the probability for Lake Mead to be below 1,083 feet msl generated from DEIS modeling is approximately 42 to 43 percent (a 58 to 57 percent probability of avoidance) under baseline conditions and each of the alternatives during the final 15 years of analysis. As noted in Figure 3.3-15, Lake Mead water levels may fall below 1083 feet msl under modeled baseline and surplus alternatives. The interim surplus criteria has the potential to draw down the Lake Mead water levels earlier but to the same levels as the baseline conditions.

3: The hydrology data used to model the operations of the Colorado River under baseline conditions and the surplus alternatives were developed using Reclamation's historic Colorado River flow measurement data, in combination with estimates of historical depletions. The resulting natural flow data represents an estimate of the flows that would have existed without storage or depletion by man. This is different than the recorded historical stream flows that represent actual measured flows. The system of measurement and adjustment for natural flows that Reclamation used for EIS analyses represents the best available information. Sections 3.3.2 and 3.3.3 discuss natural runoff and modeling of future hydrology. It is anticipated that Lake Mead water levels and Hoover Powerplant production will be affected by the conditions modeled under the baseline conditions and surplus alternatives. The relative differences in potential impacts as presented in Sections 3.3 and 3.10 are the impacts that need to be considered as being associated with the implementation of the interim surplus criteria, under the respective surplus alternatives.

Hoover Dam Lynchpin Reliability Role in Western State Power Systems. The maximum rated capacity of Hoover Dam is 2074 Megawatts. However Hoover Dam's power capacity plays an essential role in western state power systems far beyond simply the 2074 Megawatts it can produce. That role is system reliability, stability, and support. Power systems require a certain amount of power generating capacity to be held in reserve for immediate activation should any of the generators currently producing power into the system fail or shut down for any reason. Without adequate reserve capacity, failure of one generator tied into the system can quickly produce a chain reaction and cause additional generators attached to the system to fail and create a region wide blackout.

In order to prevent such a regional power failure, the regional system needs significant reserve generation that can be called on immediately to replace the failed generator. This reserve capacity is best provided by facilities with flexible response capabilities. Hoover Dam serves this function in the western regional power system. In a matter of minutes Hoover Dam can provide 2074 Megawatts of clean hydroelectric power to fill the gap and cover the problem in the grid. In addition Hoover's power can move effectively to the problem area since Hoover is connected to the Mead Substation- a major electric substation south of Boulder City from which transmission lines fan out all across the western U.S. In that sense Hoover Dam with its immediate ramping capability and massive transmission system links is a critical lynchpin that assures the reliability within the western states power grid.

Note that for the foreseeable future there is no alternative power source to replace Hoover's unique ability to respond to disturbances in the system. For example coal-fired or nuclear generating facilities have little capability to respond like Hoover. They run best at a flat rate of output. Thus they can not economically serve in a system reliability role. Gas-fired generation may be used in a peaking function- assuming however that (1) that capacity is available and (2) transmission lines are installed to those facilities in order to move that power to the problem area.

However perhaps due to high natural gas prices and lack of water resources for cooling only a few plants have been permitted and less are actually under construction. The little additional power capacity that these plants will add to the total electric system will quickly be swallowed up by growing demand of cities and industry for power. Thus there appears to be no gas-fired capacity under construction that could serve in a peaking capacity and replace lost Hoover capacity. The potential loss of the Hoover resource would place the western power system already low in reserve capacity into a dangerous situation.

4

Impact Upon Authority Power Customers. The Authority delivers Hoover power to 31 Irrigation and Electrical Districts within the State of Arizona. For many districts the Hoover power is the primary source of electrical power. Thus these Districts' agricultural, residential, and industrial users will be impacted either by reduction in available power, or in the significant costs to purchase replacement power in a market where power resources are growing more difficult to obtain at reasonable prices.

5

4: Section 3.10.2.3 includes a discussion of generation ancillary services, which include peaking power. A large portion of the potential losses is included in baseline conditions.

5: See response to Comment 16-2. Impacts to individual power customers is beyond the scope of analysis in the EIS. Reclamation believes that the level of analysis for energy resources presented in the EIS appropriately identifies the potential effects of interim surplus criteria.

Hoover Dam Power Generation and Impact Upon Water Use. A 500 megawatt gas-fired power plants requires anywhere from 4,000,000 to 7,000,000 gallons of water for its cooling system and discharges 20% of that water daily. Thus if the 2074 Megawatt Hoover resource were removed from the marketplace, then four additional 500 Megawatt gas fired facilities would be required in order to replace both Hoover's capacity and its reliability role.

6

Those four generation facilities would cumulatively require an additional 16,000,000 to 28,000,000 gallons of water usage. I note this because water prices in Arizona and adjacent states have risen to the level where gas-fired power plants' economics are becoming marginal at best. That is, the availability of the Hoover resource if impaired- is in question. The reliability role of Hoover Dam could be instead lost to the western grid- a very serious issue for the foreseeable future with power reserve margins dropping throughout the West.

Summary. The Authority encourages the Bureau of Reclamation again to analyze the Draft EIS Alternatives and the data assumptions underlying them as to the power issues. Water and power resource management should be approached in the Draft EIS in an integrated fashion as has traditionally been done along the Colorado River. In solving water issues in the State of California, the current plans may be simultaneously creating equally serious power resource issues for the western region.

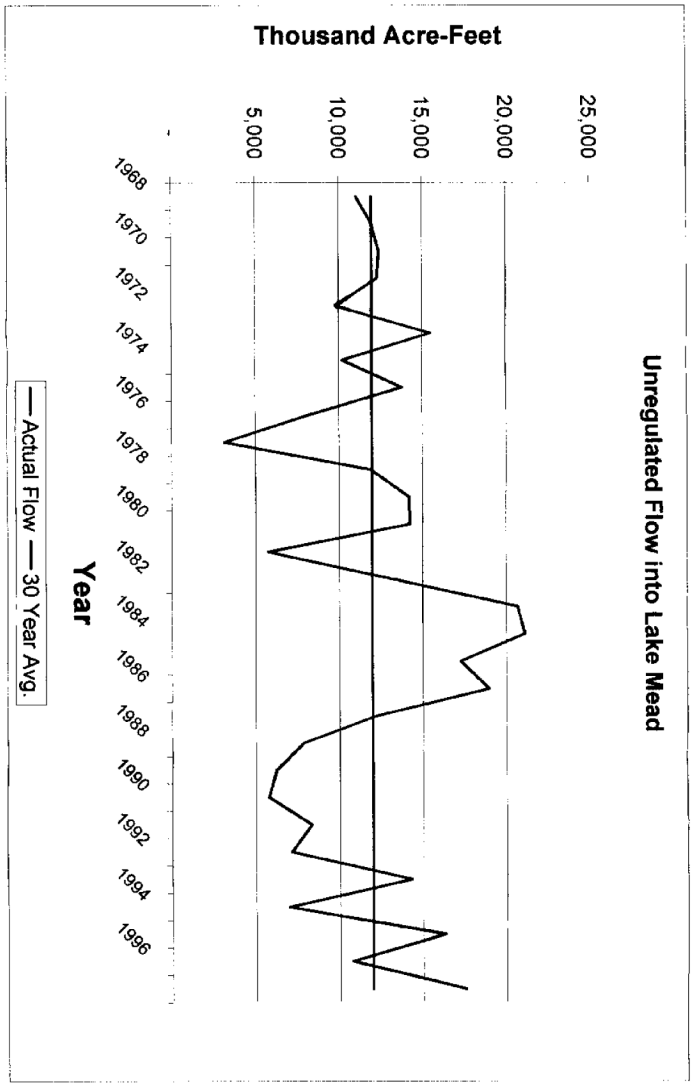
Sincerely,

Douglas V. Fant

Attachment

Mr. Douglas V. Fant
Associate legal Counsel
Arizona Power Authority

6: Comment noted.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