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METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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September 30, 1997

To: Board of Directors (Water Planning and Resources Committee--Information)

From: *for* General Manager

Submitted by: Debra C. Man, Chief
Planning and Resources

Timothy J. D.
Debra C. Man

Subject: Arizona Concept for Determining Availability of Surplus Colorado River Water

RECOMMENDATION

For information only.

REPORT

The Executive Director of the Colorado River Board of California (CRB) and the Director of the California Department of Water Resources have met with Herb Dishlip, Deputy Director of the Arizona Department of Water Resources to discuss Arizona's views on the conditions under which surplus Colorado River water might be made available to California in the future. This discussion has occurred following the distribution of the August 11 draft "Colorado River Board 4.4 Plan, California's Use of Its Colorado River Allocation" (California Plan) to representatives of the other Colorado River Basin states. In the California Plan, it was indicated that the CRB would work with the six agencies, the other states, and the Department of the Interior to develop Lake Mead operating criteria that make greater use of the runoff and available storage without exposing the other states to unreasonable risks. The discussion with Mr. Dishlip has taken place to assist the California agencies with interests in Colorado River water and power resources in the continuing effort to prepare a plan to show how California can reduce its Colorado River diversions when appropriate. A description of the surplus criteria prepared by the CRB's Executive Director which reflects Arizona's views is Attachment I. It is prepared for inclusion with the California Plan and is subject to revision based on comments received by the CRB.

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Attachment

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Draft
September 24, 1997

**Attachment I
Colorado River Board 4.4 Plan**

The delivery of surplus water to the Colorado River mainstream users in the Lower Basin will be based upon the having "long-term" and "interim" surplus criteria for the operation of Lake Mead. The long-term operating criteria establishes the base condition for providing surplus water to the Colorado River mainstream users; whereas, the interim criteria is a result of California's 4.4 Plan and a objective the Colorado River Basin states to keep the Colorado River Aqueduct full while the California agencies implement programs to keep the Colorado River Aqueduct full from within its annual apportionment of Colorado River water.

Based upon the above, the release of water from Lake Mead will be based upon reservoir operating criteria that would make water available to Colorado River mainstream users at four levels of supply. The first three levels would provide limited surplus water deliveries to Colorado River mainstream users in the United States and the fourth level would limit the consumptive use of the mainstream users to 7.5 MAF, the "basic" apportionment of the Lower Division states. To implement these four levels of releases from at Lake Mead and in consideration of the desires of the other Colorado River Basin states, the operating criteria making surplus water available to the mainstream users would be based upon: 1) the avoidance of future hydrologic spills; 2) the high probability that with firm and non-firm transfers being implemented by California, the Colorado River Aqueduct can be kept full with surplus water; and 3) the proposed surplus strategy negates the need for California to bank conserved water in the mainstream reservoirs.

The following describes the reservoir operating criteria for the four levels of releases from Lake Mead during the interim phase, through the year ____:

- 1) The first level of surplus, termed the base level, is based on hydrology and is a spill avoidance type of surplus condition. The range for such a surplus condition would not necessarily be limited to a flood control or a one year look-ahead type of spill avoidance criterion; rather it could be a multiple year look-ahead type of surplus strategy. The first level surplus would not be contingent upon California's development of a 4.4 Plan; however, the actual surplus strategy that would be acceptable to Arizona for the first level surplus, might be influenced by California's Plan and California's commitment to reduce its use of Colorado River water. At the first level, all surplus demands within the United States, including off-stream banking, would be honored to the extent that such demands are within the quantity of water that would spill. The quantity of water that would be expected to spill is dependent upon the selected first level criteria (e.g., a five year look-ahead spill avoidance criteria). Under this type of surplus strategy for

the first level, the demand for surplus water within the Lower Basin does not govern the volume of surplus water to be made available; rather the volume of water expected to be spilled would dictate the volume of the surplus. This is characterized as a limited surplus strategy, where, in some years, the quantity of surplus water made available would not be sufficient to satisfy all of the water demands within the United States.

A surplus condition, pursuant to the 1944 Mexican Water Treaty, might be based upon a different criterion than the one used for water users within the United States. For Mexico, the occurrence of actual flood control releases might dictate when a surplus condition exists under the Mexican Water Treaty. Under a surplus condition for Mexico, Mexico would be able to schedule the delivery of 1.7 maf.

- 2) The second level of surplus, although possibly based on a specific set of criteria, would be driven by municipal and industrial (M&I) demands within California and the quantity of water that is needed to keep the Colorado River Aqueduct full. For the second level of surplus, no water would be made available for off-stream banking or agricultural uses that are above the agricultural agencies "basic" entitlements. Arizona considers that the opportunity to receive water at the second level is directly tied to California's 4.4 Plan and that all water used at the second level must be used to fill the Colorado River Aqueduct and meet M&I demands. The quantity of water to be made available would be based upon California's 4.4 maf plan, and as such, would be for a specific quantity of water that is annually tied to the quantity of water available from core transfers from the agricultural areas to the coastal plain.
- 3) The third level of surplus is also tied to California's 4.4 Plan and is driven by the amount of water needed to annually fill the Colorado River Aqueduct. Water would be made available specifically to fill the Colorado River Aqueduct and meet the M&I demands on the coastal plain. At the third level, the quantity of water to be provided under a surplus declaration would be limited to that amount needed to fill the Colorado River Aqueduct, after water from core transfers and dry-year options are in the Aqueduct. The quantity and mix of core transfers and dry-year options are subjects for discussion; however, dry-year options must be a component of the Plan to distinguish the quantity being made available at the third level from that quantity made available at the second level. The third level surplus is being characterized as a partial surplus. Here, as at the second level, the objective is to keep the Colorado River Aqueduct full and as such, operating criteria to determine the availability of surplus water are considered secondary to California's 4.4 Plan.
- 4) At the fourth level, no surplus water would be made available. Conditions on the Colorado River are such that the risk of future shortages is too large to draw water from reservoir storage to meet any demands above each state's "basic" apportionment (i.e., the consumptive use from the mainstream of the Colorado

River in the Lower Basin would be limited to 7.5 maf). At the fourth level, California's use of Colorado River water would be limited to 4.4 maf, unless apportioned, but unused, water was available for use by California.

The second and third levels of surplus would apply over the same time frame, the length of which is open to discussion. During this period of time, Arizona is considering ways that its risk of future shortages might be reduced. One possibility is that, receiving the additional surplus water to fill the Colorado River Aqueduct, be conditioned upon some water being banked in Arizona's ground water basins. The water banked in Arizona would be available for Arizona to use if a shortage occurs prior to the reservoir system refilling. However, if the reservoir system refills, the banked water would be available for use by the entity banking the water.