A Guide to Colorado River Water Supplies and Entitlements within the State of Arizona

Prepared for the Northern Arizona Municipal Water Users Association

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Introduction

One of the primary objectives of the Northern Arizona Municipal Water Users Association (NAMWUA) is to develop a secure and sustainable regional water supply for its member communities. While none of the NAMWUA communities are in close proximity to the Colorado River, they have expressed interest in evaluating if Colorado River water resources that could be imported into their region in a manner similar to the way the Central Arizona Project imported Colorado River water to Maricopa, Pinal, and Pima Counties. This report has been prepared to provide NAMWUA with a reference guide that will allow the NAMWUA communities to better evaluate the pros and cons of pursuing or purchasing a Colorado River allocation. The concept of the paper is to provide enough information to understand the critical aspects of the Colorado River laws and institutional arrangements. With that information in mind, the NAMWUA members can identify alternative courses of action and potentially establish priorities for additional study.

There is an abundance of literature available concerning the history of the development of the Colorado River. The River also has had and continues to have more than its share of issues and controversy since it is one of the primary water resources for many of the Western United States’ largest and fastest growing communities including Denver, Salt Lake City, Albuquerque, Las Vegas, Phoenix, Tucson, Los Angeles, and San Diego. The River also provides water to numerous Indian Reservations and the Republic of Mexico. The Colorado River has been describes as the most over-allocated River in the Untied States, and yet, to date, there has never been a declared shortage to water users of the Lower Basin states. However, considering the rapidity of change that is occurring within the Colorado River Basin, shortages may become a more common occurrence. As resources become scarcer so does the competition for those resources. Costs associated with the purchase of a water right will undoubtedly go up. Likewise, water right holders will do more to protect their valuable existing rights including litigation if necessary. Also, if water supplies dwindle due to drought or overuse, environmental issues, including endangered species, may force changes in operations which affect consumptive use contracts and rights. With these potential changes in mind, time may be of the essence for NAMWUA members. It is extremely difficult to predict the future and it must be recognized that a long lead time will undoubtedly be required before a major water resource development can be planned, permitted, financed, and constructed.

This report provides information on three critical attributes of Colorado River water: physical availability, legal availability, and costs. The section of physical availability provides background on the supply of water, but also focuses on the priority system that exists within Arizona as a whole and within the Central Arizona Project. While the Arizona priority system is not based on the common Western States doctrine of prior appropriation, it does have many of the components of “first in time, first in right.” NAMWUA members would utilize any Colorado River supplies for municipal and industrial uses rather than agriculture. Therefore reliability will be a critical evaluation attribute of any water resource. The section on legal availability provides background on
laws and regulations which have been created over many years that have resulted in a unique “Law of the River” water rights system. Information is provided on availability of unallocated water, current owners of water entitlements, examples of water right acquisitions that have been successfully completed, and opportunities for future water right acquisitions. The section on costs describes some of the financial considerations that must be considered in dealing with Colorado River water and Central Arizona Project supplies.
Physical Availability Considerations

Water Supply

The water supply of the Colorado River is highly variable both seasonally and from year to year. The River’s headwaters are located in the high elevations of the Rocky Mountains in Colorado, Wyoming and Utah. Winter snowfall is the primary form of precipitation and spring runoff from the melting snow accounts for most of the natural water supply. Summer rains are prevalent in the higher elevations, but have a limited contribution to runoff. Most of the drainage basin is characterized as arid to semi-arid. Periodic storms create localized flood events, but do not contribute significantly to the useable water supplies.

Figure 1 is a map of the Colorado River Basin which depicts the major tributaries and storage reservoirs. In 1922, the negotiators of the Colorado River Compact suggested that the Basin be divided into an Upper Basin and a Lower Basin, with the division point being Lees Ferry, Arizona. The proposed division was made for administrative reasons, but in fact, the dividing line is representative of the differing hydrologic character of the watershed above and below the demarcation. The Upper Basin is characterized by a number of tributaries including the Colorado River, Gunnison River, Green River, and San Juan River which merge in southern Utah. Because of the dispersed nature of the water supply in the Upper Basin, the water availability for consumptive uses is subject to local conditions. It is not uncommon in any given year for some parts of the Upper Basin to have ample water supplies while shortages exist in other portions. By the time the River reaches Lees Ferry, the upstream tributaries have funneled about 85% of the overall watershed runoff to a common point. The Lower Basin tributaries of the Little Colorado River, Kanab Creek and the creeks and springs of the Grand Canyon area, the Virgin River, and the Bill Williams River do not benefit from a large snowpack area and as a result produce significantly less runoff, even though the physical area of their watersheds is large. The most significant Lower Basin tributary is the Gila River which includes Salt and Verde watersheds and the Gila mainstem watershed. On average, the Gila River produces about 1.4 million acre feet per year, but this water supply plays no role in the Colorado River water supply except in times of extreme runoff and flood. Even then, because the confluence of the Gila River with the Colorado River is below the furthest downstream United States diversion point, the only diversion that can benefit from this water supply is that of the Republic of Mexico.
Figure 1
Colorado River Basin
Figure 2 is a graph which depicts the historic virgin flow of the Colorado River at Lees Ferry for the years 1906-2004. The virgin flow is a calculated value and represents what the watershed would have yielded in the absence of upstream consumptive uses. The graph demonstrates that the annual runoff can be highly variable and the extremes have ranged from a high of about 23.5 million acre feet to a low of about 5.0 million acre feet. The long term average natural flow is approximately 15 million acre feet. There is definitely a downward trend in the running average as can be seen from the green line on the graph. The ten year running average which is depicted by the red line provides an interesting perspective that there are definite periods where yield can be considerably less than the average. It is these below average periods that cause concern about the potential for shortages to Arizona water users.

![Graph of Colorado River natural flow at Lee's Ferry from 1906 to 2004.](image)

By comparison, the Lower Basin tributaries (not including the Gila River) contribute an average of only about 950,000 acre feet as shown in the following table.

### Annual Average Inflow of Tributaries below Lee Ferry

<table>
<thead>
<tr>
<th>Tributary Name</th>
<th>Average Annual Inflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee Ferry to Lake Mead</td>
<td></td>
</tr>
<tr>
<td>Little Colorado River</td>
<td>194,510</td>
</tr>
<tr>
<td>Blue Springs (Little Colorado River)</td>
<td>162,504</td>
</tr>
</tbody>
</table>
Reservoirs

The Colorado River Basin has benefited greatly by the construction of large storage reservoirs by the U.S. Bureau of Reclamation. There are numerous storage reservoirs throughout the Basin, but the majority of the water is stored in the following eight reservoirs. The combined storage represents close to five times the annual runoff which is a very high ratio for a watershed. It is also indicative of the need to have a large amount of carry-over storage in the system to attempt to even out the highs and lows of the runoff pattern.

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Capacity in million acre feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fontenelle</td>
<td>0.345</td>
</tr>
<tr>
<td>Flaming Gorge</td>
<td>3.749</td>
</tr>
<tr>
<td>Blue Mesa</td>
<td>0.829</td>
</tr>
<tr>
<td>Navajo</td>
<td>1.695</td>
</tr>
<tr>
<td>Lake Powell</td>
<td>24.322</td>
</tr>
<tr>
<td>Lake Mead</td>
<td>25.877</td>
</tr>
<tr>
<td>Lake Mohave</td>
<td>1.810</td>
</tr>
<tr>
<td>Lake Havasu</td>
<td>0.619</td>
</tr>
<tr>
<td>Total</td>
<td>59.246</td>
</tr>
</tbody>
</table>

Allocations and Demands

The allocations of Colorado River water have been made on different levels. The primary levels of allocation were made by the Colorado River Compact of 1922 which made a basic apportionment of 16 million acre feet per year the Upper Basin and the Lower Basin. The Upper Basin was allocated 7.5 million acre feet and the Lower Basin was allocated 8.5 million acre feet. The Mexican Treaty of 1944 made the other primary allocation by providing the Republic of Mexico a basic right to 1.5 million acre feet per year. The sum of the three primary entitlements is therefore 17.5 million acre feet per
year. While it has never been legally determined if Arizona’s use of Gila River water counts against the Lower Basin’s 8.5 million acre feet, it is a fair interpretation that that was the intent of the Compact Commissioners.

The use of water from the Colorado River system varies from year to year, but according to reports by the Bureau of Reclamation the 1996-2000 average consumptive use by the Upper Basin use was about 3.7 million acre feet of consumptive use, the Lower Basin uses about 10.5 million acre feet. Mexican use was about 1.6 million acre feet. The Bureau of Reclamation values include about 2.5 million acre feet of Lower Basin tributary uses, which when segregated out, leaves a Lower Basin mainstream consumptive use of about 7.9 million acre feet. When attempting to evaluate the physical availability of the Colorado River water supply, natural losses for reservoir evaporation and riparian habitat must also be included. On average, the Upper Basin mainstream reservoir evaporation is estimated to be .682 million acre feet. Similarly, the Lower Basin mainstream reservoir evaporation and losses are estimated to be 1.32 million acre feet. All together the average consumptive uses and losses (not counting Lower Basin tributaries) for the five year period were about 16.2 million acre feet. In the water supply section described above the equivalent average annual supply was found to be 15.95 million acre feet, so there would currently be only a slight deficit. If the Mexican use was reduced to its normal year average of 1.5 million acre feet, then the total system use of supply and demand is about in balance.

There are two causes for concern with the calculation described above: 1) What will happen when the runoff is below average? and, 2) What will happen if the consumptive uses in the Upper Basin are increased to more fully utilize their Colorado Compact allocation? The answer to both questions is that there will be shortages to the water users since the demand will exceed the supply.

Critical to the supply and demand equation is the water management approach used for the mainstream reservoirs. When the reservoirs are full or nearly full it will be possible to accommodate a supply deficit through increased reservoir releases. However, when the reservoirs are low due to poor runoff for several years, there will necessarily be reduced allocations to water users. The basic operating criteria for the reservoir releases are dictated by the Colorado River Compact and the Mexican Treaty of 1944. In the Compact, the Upper Basin states agreed to bear a release obligation of 75,000,000 acre feet over any rolling ten year period. The states also agreed to bear the burden of the Mexican Treaty obligation first out of any surplus waters, and then by sharing any remaining deficit equally. The Colorado River Compact provisions have been interpreted differently by representatives of the Upper Basin and the Lower Basin, but in the absence of a consensus, the Bureau of Reclamation has adopted a default release from Lake Powell (essentially a release to the Compact division point at Lees Ferry) of 8.23 million acre feet per year. This value equates to .75 million acre feet representing half of the Mexican obligation of 1.5 million acre feet, and 7.48 million acre feet which, when combined with the approximately 20,000 acre feet of yield from the Paria River below Lake Powell, equates to one tenth of the 75,000,000 acre foot release obligation.
If only 8.5 million acre feet is being released from the Upper Basin to meet the combined needs of the Lower Basin and Mexico a deficit is likely. The Lower Basin inflow below Lake Powell is about 400,000 acre feet less than the average reservoir evaporation. The total normal year demand for Mexico and the States of California, Nevada, and Arizona is 9.0 million acre feet. The resulting Lower Basin supply demand equation results in the conclusion that there will be a deficit of about 900,000 acre feet. Even with the large amount of storage in Lake Mead, under this scenario that storage would be depleted over a number of years. The perspective on the situation is even worse when you factor in the current condition that Lake Mead is only about half full. The conclusions that the Basin states representative reach from these facts are a matter of perspective. The Upper Basin states believe the solution to the problem must come from reductions in use in the Lower Basin. The first step in that process was to have the State of California reduce its use of Colorado River water to no more than 4.4 million acre feet which is a reduction of about 600,000 to 800,000 acre feet per year. Other steps include shutting down unauthorized Lower Basin water uses, and finally to declare shortages and reduce water deliveries. The Lower Basin perspective has been to attempt to manage Lake Powell and Lake Mead conjunctively and as a result to have releases greater than 8.23 million acre feet. All of the Basin States appear to agree that in the long run, the water supply to the Colorado River should be augmented by utilizing techniques such as weather modification, watershed management, or desalination of sea water.

**Guidelines for Colorado River Reservoir Operations under Low Flow Conditions**

In June 2005 the Bureau of Reclamation announced that it would undertake a process to establish new guidelines for reservoir operations and Lower Basin shortage declarations. This process is reaching its completion as the Final Environmental Impact Statement for a preferred alternative was released for public review on November 2, 2007. The selected alternative was based on a plan submitted by representatives of the seven Colorado River Basin States. The process is scheduled to be completed when a Record of Decision is published in the Federal Register in December 2007. The guidelines will be in effect through the year 2026.

Arizona’s water supply will be most affected by the shortage determination guidelines. Under the proposed plan, shortages in the Lower Basin would be tiered and will be triggered by the water storage content levels in Lake Mead. The initial shortage level would be a reduction in consumptive uses in Arizona would be reduced from 2.8 million acre feet to 2.48 million acre feet. In the second shortage tier Arizona’s entitlement would be reduced to 2.4 million acre feet and in the third tier the entitlement would be 2.32 million acre feet. At these levels of reduction, all of the shortfall would be borne by Arizona Priority 4 Contractors (explained below) including the Central Arizona Project. The Central Arizona Water Conservation District (CAWCD), the state agency which operates the CAP analyzed the impact of the proposal on its water users through the year 2026. A copy of the Bureau of Reclamation Draft Guidelines from the Final EIS and the CAWCD analysis of impacts is attached to this Report as **Appendix A**.
The Arizona Lower Basin Colorado River Priority System

Arizona’s entitlements for deliveries of Lower Basin Colorado River supplies are based on contracts which rely on statutory provisions as interpreted by the United States Supreme Court. This “Law of the River” system is not founded on the common western state legal doctrine of prior appropriation and therefore does not directly follow a “first in time – first in right” approach in times of shortage. However, the mechanism does recognize that there are general categories of priority for water when the available supply will be less than the full normal year entitlements. While this mechanism does not directly apply the priority date of prior appropriation, it does borrow from that concept, and then applies priority in a unique way.

A priority system is required because Lower Basin Colorado River contracts to divert water do not guarantee physical water supplies and are subject to limitations based on water availability. There are several key threads within the “Law of the River” that form the fabric of the priority system.

- **Colorado River Compact (1922)** – Article VIII recognizes that there were “present perfected rights” to Colorado River water at the time Compact was negotiated. Lower Basin present perfected rights were granted a limited right to call for water from the Upper Basin states, but only until such time a large reservoir was constructed on the River. That reservoir, Lake Mead, was subsequently built. Water to satisfy the present perfected rights was then to be obtained from Lake Mead and not directly from the Upper Basin.

- **Boulder Canyon Project Act (1929)** – The BCPA ratified the Colorado River Compact subject to the State of California adopting a limitation of no more than 4.4 million acre feet from the Lower Basin’s share of water supply. California could also claim half of any surplus supply available. The Act went on to propose an allocation of 2.8 million acre feet to Arizona and 300,000 acre feet to Nevada. Arizona was entitled to the other half of the surplus, but later relinquished 4% of its share to Nevada. Section 5 of the BCPA clearly establishes the principle that a contract with the Secretary of the Interior is a requirement in order to receive Lower Basin Colorado River water. Section 6 of the BCPA creates a priority for the use of the reservoir which is … First, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses and satisfaction of present perfected rights in pursuance of Article VIII of said Colorado River compact; and third, for power.

- **Mexican Treaty of 1944** – Article 10 of the Mexican Treaty allocated water for use in the Republic of Mexico. The initial allocation to Mexico is for a guaranteed annual quantity of 1,500,000 acre feet. This “guaranteed” quantity implies a priority to this quantity relative to users within the United States. In times of surplus supply, Mexico could receive an additional 200,000 acre feet. However, in times of “extraordinary drought” or serious accident to the irrigation system within the United States, Mexico’s “guarantee” would be waived and subject to a reduction in proportion to the reduction in consumptive use within the United States. This provision has never been
employed and there is likely to be a disagreement between the two countries about what condition would constitute an “extraordinary drought.”

- **Arizona v. California Decree** – In resolving the *Arizona v. California* lawsuit, the United States Supreme Court provided more definitive guidance over the priority of water delivery in the Lower Basin. Section II (B) (3) of the Decree further established a sense of priority to water in times of shortage. That priority was defined as: “If insufficient mainstream water is available for release, as determined by the Secretary of the Interior, to satisfy annual consumptive use of 7,500,000 acre-feet in the aforesaid three States, then the Secretary of the Interior, after providing for satisfaction of present perfected rights in the order of their priority dates without regard to state lines and after consultation with the parties to major delivery contracts and such representatives as the respective States may designate, may apportion the amount remaining available for consumptive use in such manner as is consistent with the Boulder Canyon Project Act as interpreted by the opinion of this Court herein, and with other applicable federal statutes, but in no event shall more than 4,400,000 acre-feet be apportioned for use in California including all present perfected rights...” In later sections of the Decree, the holders of present perfected rights are listed, priority dates are established, and their rights are quantified. Present perfected rights include the rights held by the Federal government for Indian Reservation water rights. The Decree further established a priority system based on the date of a water users contract when it states “Provided, further, that consumptive uses from the mainstream for the benefit of the above-named federal establishments shall, except as necessary to satisfy present perfected rights in the order of their priority dates without regard to state lines, be satisfied only out of water available, as provided in subdivision (B) of this Article, to each State wherein such uses occur and subject to, in the case of each reservation, such rights as have been created prior to the establishment of such reservation by contracts executed under Section 5 of the Boulder Canyon Project Act or any other applicable federal statute.” Beyond the obligation to deliver to present perfected rights and existing contracts first, the Court established that the Secretary of the Interior would have broad discretion in deciding how to deliver water in times of shortage.

- **Colorado River Basin Project Act of 1968** – The United States Congress expanded on the Lower Basin priority mechanism through Section 301(b) of the CRBPA. This act authorized the Central Arizona Project (CAP) for construction as a federal Reclamation Project. Section 301(b) created a lower relative priority for the CAP by stating: “Article II (B) (3) of the decree of the Supreme Court of the United States in Arizona against California (376 U.S. 340) shall be so administered that in any year in which, as determined by the Secretary, there is insufficient main stream Colorado River water available for release to satisfy annual consumptive use of seven million five hundred thousand acre-feet in Arizona, California, and Nevada, diversions from the main stream for the Central Arizona Project shall be so limited as to assure the availability of water in quantities sufficient to provide for the aggregate annual consumptive use by holders of present perfected rights, by other users in the State of California served under existing contracts with the United States by diversion works heretofore constructed, and by other existing Federal reservations in that State, of four million four hundred thousand acre-feet of mainstream water, and by users of the same character in Arizona and Nevada. Water users in the State of Nevada shall not be required to bear shortages in any proportion greater than would have been
imposed in the absence of this subsection 301(b). This subsection shall not affect the relative priorities, among themselves, of water users in Arizona, Nevada, and California which are senior to diversions for the Central Arizona Project, or amend any provisions of said decree.” Under the terms of Section 301(b) the CAP supplies are to be reduced in order to provide a full supply of water to California water users up to 4.4 million acre feet and also to provide a supply to water users within Arizona and Nevada whose contracts pre-date the passage of the CRBPA. This provision is responsible for the later designation of contracts as either pre-1968 status or post-1968 status.

- **CAP Master Repayment Contract (1972, amended 1988)** – The CAP Master Repayment Contract is between the Central Arizona Water Conservation District (CAWCD) and the United States Department of the Interior, Bureau of Reclamation. Article 8 of the 1988 amended Contract provides terms for the delivery of water. Sub-article 8.7 (b) reiterates that CAP water supplies are subject to first providing for the satisfaction of present perfected rights and other water delivery contracts that existed as of September 30, 1968. Sub-article 8.7 (c) states that CAP water will have the same priority as all other water delivery contracts, Federal reservations of water, and other arrangements between the United States and water users in Arizona entered into subsequent to September 30, 1968. However, the total quantity of this co-equal priority water may not exceed 164,652 acre feet of diversions per year. An exception to the non-CAP diversion cap is made for contracts that may be needed for unknown present perfected rights and for the Secretarial water reservation for the Cibola National Wildlife Refuge. This category of water is all of equivalent status regardless of when a water delivery contract is actually signed. For example, a new contract issued in 2007 for a portion of the 164,652 acre feet of diversions would still share priority with the CAP with a contract date of 1972.

- **CAP Repayment Contract Lawsuit Stipulated Settlement (pending final approval)** – In 1995 the CAWCD sued the Untied States and the United States countersued the CAWCD over terms of the CAP Master Repayment Contract. The parties successfully negotiated a Settlement Stipulation in 2000. Paragraph 5 of the Stipulation makes a subtle but important clarification to the quantity of Colorado River water available for the CAP. The CAP supply is not quantified. Each year the supply will be determined based on the difference between Arizona’s annual apportionment of 2.8 million acre feet (or greater in a surplus year) and the amount of water consumed by other Arizona water users who have a higher or co-equal priority. In years where there is a declared shortage in the Lower Basin, CAP would share the shortage with the holders of the co-equal contracts for 164,652 acre feet. The implications of this clarification are that in years when the other Arizona water users are using less than their full contract entitlements, the CAP could use all of their unused water. For the next few decades, while the other water users are building up to their ultimate uses, this will be a benefit to CAP. However, sometime in the future when the non-CAP Arizona demands increase, the remaining supply available for CAP may not be adequate to satisfy all subcontracts, even though there would be a normal year supply available for the Lower Basin.
Within the State of Arizona, the following priorities shall apply in the administration of Mainstream Water. The second and third priorities are coequal.

Priority 1
Satisfaction of Present Perfected Rights as defined and provided for in the Decree.

Priority 2
Satisfaction of Secretarial Reservations and Perfected Rights established or effective prior to September 30, 1968.

Priority 3
Satisfaction of Entitlements pursuant to contracts between the United States and water users in the State of Arizona executed on or before September 30, 1968.

Priority 4
Satisfaction of Entitlements pursuant to: (i) contracts, secretarial reservations, and other arrangements between the United States and water users in the State of Arizona entered into or established subsequent to September 30, 1968 for use on federal, state or privately owned lands in the State of Arizona (for a total quantity not to exceed 164,652 acre feet of diversions annually); and (ii) Contract No. 14-06-W-245 dated December 15, 1972, as amended, between the United States and the Central Arizona Water Conservation District for the delivery of Mainstream Water for the Central Arizona Project, including use of Mainstream Water on Indian lands.

Entitlements having a fourth priority as defined in (i) and (ii) herein are co-equal. Reductions in Entitlements having a fourth priority shall be borne by each Entitlement holder in the same proportion as its Entitlement, or as required by law or regulation. If, however, a reduction sharing agreement is entered into between two or more such authorized users, then the reduction shall be shared among the parties as provided in the agreement, subject to approval by the contracting officer after consultation with the Arizona Department of Water Resources.

Priority 5
Satisfaction of Entitlements to any Unused Arizona Entitlement or Unused Apportionment Water.

Any entity with a contract for fifth-priority water shall utilize its fifth priority Entitlement only after the Contracting Officer has determined that Mainstream Water is available under applicable law or regulation, and the Contracting Officer provides written notification that such Mainstream Water is available in a specific year, subject to the scheduling and reduction provisions of the contract. Reduction or elimination of the fifth-priority water use shall be determined by the Contracting Officer after consultation with ADWR, or on the basis of the contract dates, or as required by law or regulation.

Priority 6
Satisfaction of Entitlements to Surplus Water.

Any contractor for sixth-priority water shall utilize its sixth-priority Entitlement only after the Contracting Officer has determined that Mainstream Water is available under applicable law or regulation, and the Contracting Officer provides written notification that such Mainstream Water is available in a specific year, subject to the scheduling and reduction provisions of the contract. Reduction or elimination of the sixth-priority water use shall be as determined by the Contracting Officer or on the basis of the contract dates, or as required by law or regulation.
Distribution of Water in Times of Shortage

Prior the start of each calendar year, the Bureau of Reclamation consults with stakeholders and the representatives of the seven Basin States’ Governors on the preparation of an Annual Operating Plan (AOP) for the upcoming year. The decisions made through of the AOP process are the manner in which the mainstream reservoirs will be operated and the amount of water that will be available for delivery to Lower Basin contractors. The Secretary of the Interior, by adopting the AOP, will decide if the supply is adequate to deliver a supply of 7.5 million acre feet (normal year), more than 7.5 million acre feet (surplus year) or less than 7.5 million acre feet (shortage year) as set forth in Article II of the Arizona v. California Decree. If a shortage year is declared, the Secretary can also find that the cause of the shortage is “extraordinary drought” which would trigger a pro rata reduction in deliveries to Mexico. To date, there has never been an AOP adopted that called for a shortage declaration, but in light of existing reservoir levels, the Bureau of Reclamation is in the process of adopting guidelines that will be used in making a shortage year decision in the future.

If a shortage is declared, the Bureau of Reclamation will reduce water deliveries to ensure that the available supply will not be exceeded. Orders to Mexico will be met first, but, if warranted, those orders will be reduced in accordance with the Treaty to less than 1.5 million acre feet. Water orders within the United States would be satisfied next. In accordance the Arizona v. California Decree water orders to present perfected rights are to be met without regard to which State they are in. The next water orders met will be those in California up to a maximum of 4.4 million acre feet and those in Arizona with contract dates prior to September 30, 1968 (Priorities 2 and 3). Water orders for Nevada will also be met on a basis similar to California and Arizona Priority 2 and 3 contractors, but Nevada is subject to a limited reduction. By agreement with Arizona, the Nevada shortage reduction will not exceed 12,000 acre feet (4%) through the year 2026. Once these orders have been satisfied, the balance of the available Lower Basin water supply will be available to Arizona Priority 4 contractors, including the CAP. Since the normal year supply expected to be available to CAP Priority 4 subcontractors is about 1.42 million acre feet and the supply available to the non-CAP Arizona Priority 4 contractors is based on a diversion right of 164,652 acre feet, the Lower Basin water supply shortfall will need to be over 1.5 million acre feet before a reduction is felt by higher priority Arizona, Nevada, or California contractors. While such an extreme shortfall is possible, the probability of that size of a shortfall in the foreseeable future appears to be very small based on studies prepared by the Bureau of Reclamation and ADWR. Therefore, most to the shortage planning effort has focused on the Arizona Priority 4 water contractors.

As stated in the definition of Arizona Priority 4, the CAP and up to 164,652 acre feet of on-River diversion contracts are co-equal. Even though the amount of water available for delivery is measured in consumptive use, the Bureau of Reclamation’s current position is that it would consider the quantity of the diversion rights rather than the consumptive use equivalent of those rights in its shortage sharing formula. Unless an alternative formula is proposed to the Bureau of Reclamation, the remaining Lower Basin supply will then be apportioned between the CAP and the River contractors on a
proportional basis. When calculating the proportion of CAP water, recognition must be given that 72,000 acre feet of CAP supply for the Ak Chin Indian Community and the Salt River Pima-Maricopa Indian Community are for Priority 3 water. The Bureau’s opinion on this shortage sharing by Priority 4 entities was articulated in a 1996 Discussion Paper which is attached as Appendix B.

Shortage Sharing among On-River Priority 4 Contractors

Once the volume of water available to the On–River Priority 4 Contractors is determined each will be required to bear a proportional share of any shortage. The method proposed by the Bureau of Reclamation in the 1996 Discussion Paper is to determine each contractor’s share of the available supply by dividing the applicable contract entitlement by the total entitlement of 164,652. No distinction is made between Agricultural contractors and M&I contractors – all are co-equal in determining proportional shortages.

Shortage Sharing among CAP Priority 4 Contractors

CAP subcontracts have always been subject to a tiered shortage sharing formula. Water allocations were identified as Indian Priority, M&I Priority, Non-Indian Agricultural Priority, and Miscellaneous Priority. More recently a category of water supply that is named Excess Water was established. Excess water is not available on a permanent basis, but can obtain water on a one year at a time basis. Excess water is only available because the supply was available to the CAP under its Master Contract, but was not otherwise ordered by any permanent subcontractor. In times of shortage, Excess water contracts will be reduced first until exhausted. Next Miscellaneous subcontracts would be reduced, but this category has turned out to be irrelevant since no Miscellaneous subcontracts have ever been signed. Next the Non-Indian Agricultural Priority subcontracts will be reduced until exhausted. If any Non-Indian Agricultural Priority water is available, it will be distributed to subcontractors on a pro rata basis. The ratio used in the sharing will be the ratio of the amount of NIA entitlement of the subcontractor to the sum of all NIA subcontracts. This same formula would be employed in cases where there is not a declared shortage to the Lower Basin, but the supply available to CAP is less than 1,490,000 acre feet due to a consumptive use of greater than 1,310,000 acre feet by other Arizona Priority 1-4 contractors. Once all NIA subcontracts have been reduced to zero, shortage sharing will occur between Indian and M&I Priority subcontracts. These two categories are co-equal but the sum of the M&I subcontracts equals 638,832 acre feet while the sum of the Indian subcontracts equals 343,079 acre feet. For unknown reasons, several of the Indian CAP contracts and the M&I subcontracts contained different language regarding how the co-equal shortage sharing would be implemented. In order to avoid possible litigation in the future, a new shortage sharing arrangement was adopted as a part of the Gila River Indian Community Water Rights Settlement Agreement. The basic structure of the shortage sharing remains essentially the same, but if the water supply would happen to fall in a certain range, then clarifying language was put in place to avoid what otherwise could have been
contradictory approaches. A copy of the new CAP shortage sharing formula is attached with Appendix B.

**Availability of CAP Water under Non-Shortage Conditions**

In a non-shortage year, the State of Arizona will be entitled to a minimum of 2.8 million acre feet of consumptive use from mainstream diversion contracts. The CAWCD master contract allows the CAP the right to divert all of the 2.8 million acre feet that is not consumptively used by other contractors. For the purposes of establishing a contacting ceiling, the CAWCD and the Department of the Interior agreed that CAP contract entitlements should not exceed 1,415,000 acre feet per year. Accounting for distribution system losses of about 75,000 acre feet, the amount of water that needs to be available to the CAP at the River to fully satisfy all potential CAP entitlement holders is 1,490,000 acre feet. As long as the other Colorado River contractors do not exceed consumptive uses of 1,310,000 acre feet, all CAP contracts can be satisfied without a shortfall. As a point of reference, in 2004 Arizona’s total consumptive use was 2,784,645 acre feet comprised of 1,666,327 acre feet by the CAP and 1,118,318 acre feet by other Arizona contractors.

In the course of preparing the Environmental Impact Statement for the guidelines for **Colorado River Operations under Low Flow Conditions**, the Bureau of Reclamation prepared a projection of future demands by Arizona water users for the years 2008 through 2060. Based on the Bureau’s projection the other Colorado River water users could increase their consumptive use to about 1,457,000 acre feet by 2060 which would leave only about 1,343,000 acre feet for the CAP. At that rate of diversion, after consideration of losses only 1,268,000 acre feet would be available for contract deliveries, or about a 10% shortfall. However, all of the shortfall would be borne by the holders of subcontracts for the non-Indian Agricultural Priority supply. The total entitlement in this category will be about 317,400 acre feet so a shortfall of 147,000 acre feet would constitute a 46% shortage. It should be noted that the Bureau of Reclamation may have used optimistic estimates of increased consumptive uses for on-River Arizona contractors. In particular, they estimated that Indian Reservation consumptive uses will increase by 177,600 acre feet over 2004 estimated use. If the Indian Reservations do not increase their on-Reservation consumptive uses, CAP Non-Indian Agricultural Priority water will be more secure.
Legal Availability of Colorado River Water

In order to divert water from the Colorado River a water user must first demonstrate the legal right to that water supply. Within Arizona there are two types of legal rights systems that may be applicable. In the Upper Basin drainage a state law water right must be obtained. Upper Basin consumptive use is limited to 50,000 acre feet per year which is Arizona’s entitlement under the Upper Basin Compact of 1948. Upper Basin consumptive use includes water from both the mainstream of the Colorado River and its tributaries. Arizona’s Lower Basin entitlement to consumptive use is normally 2,800,000 acre feet per year but may be more or less than that volume in any given year depending whether either a surplus or shortage condition may be declared. The 2,800,000 acre feet of consumptive use is only for mainstem diversions and does not include uses of tributary water. Legal rights to the Lower Basin mainstream supply are controlled by Federal law and no state based water rights are required.

Upper Basin Legal Availability

The Upper Basin portion of the Colorado River is defined by the Colorado River Compact to be: “… those parts of the States of Arizona, Colorado, New Mexico, Utah, and Wyoming within and from which waters naturally drain into the Colorado River System above Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System above Lee Ferry.” Within Arizona, the Upper Basin is primarily within the Navajo Indian Reservation, although it also includes some private land including the City of Page. The Arizona Department of Water Resources (ADWR), representing the views of the State of Arizona, believes that the Colorado River Compact restricts use of the State’s 50,000 acre foot consumptive use entitlement to the geographic region of the Upper Basin. Therefore, communities such as Flagstaff or Williams which are located in the Lower Basin would not legally be entitled to use an Upper Basin allocation. ADWR’s position is based on its interpretation of the Compact definition, which clearly allows for water use both within the Upper Basin and outside of the drainage area, but does not appear to allow for transportation between the two basins. The Colorado River Compact allocates water to the Upper and Lower Basins for their “exclusive beneficial consumptive use.” ADWR believes that the term “exclusive” was intended to prevent uses of Upper Basin allocations in the Lower Basin and vice versa. ADWR maintains that the distinction between an Upper Basin and Lower Basin legal entitlement is based on the place of use rather than the point of diversion so there is no basic problem with diverting water in the Upper Basin, such as from Lake Powell, for use in the Lower Basin, so long as the water user has a legal entitlement to Lower Basin water supply.

The water resources agencies of the States of New Mexico and Utah do not agree with the Arizona interpretation and believe that a state’s Upper Basin entitlement may be legally used anywhere in that state, including within the Lower Basin. Both New Mexico and Utah are proposing pipeline projects that will transport water from an Upper Basin
diversion to Lower Basin place of use. ADWR has informed the representatives of those States that they are not opposed to these projects, but that the “Law of the River” must first be changed to resolve the interpretation issue. In ADWR’s opinion, the Congress has the authority to resolve this issue legislatively. In doing so, ADWR also believes that, to the extent that a Lower Basin allocation would be diverted in the Upper Basin for a use in the Lower Basin within Arizona, two additional legal conditions must be clarified by legislation. First, the Secretary of the Interior must be granted the authority to enter into Lower Basin contracts where the point of diversion is above Lake Mead. Second in accounting for Upper Basin Compact deliveries to Lees Ferry, Lower Basin uses that are diverted from the Upper Basin should be counted as if the water was diverted below Lees Ferry. These provisions would be applied to projects like the Navajo-Gallup Pipeline Project or the Western Navajo Pipeline Project.

Most of Arizona’s 50,000 acre feet of Upper Basin entitlement has already been appropriated. The largest water use is devoted to the Navajo Generating Station (NGS) located near Page. The Salt River Project (SRP), representing the owners of the NGS holds Certificate of Water Right No. 4050 for use up to 23,065 acre feet per year. SRP also holds a permit for an additional 11,035 acre feet per year for use in the sulfur dioxide scrubbers associated with the NGS. A Certificate of Water Right has not been issued for the scrubber component, but it is likely that the Certificate, which will be based on the volume of water actually used, will be less than the permitted amount. The City of Page, which began as a Government Camp to house workers on the Glen Canyon Dam, was granted a right to use Colorado River water by Congress of 2,700 acre feet per year. The remaining water uses in the Upper Basin are located within the boundaries of the Navajo Reservation. Water rights for the Reservation have not been quantified and there is currently no General Stream Adjudication established which would lead to such quantification.

Whether counted as either Upper Basin or Lower Basin entitlement, if Colorado River water diverted from Lake Powell, a Water Service Contract with the Bureau of Reclamation will be required. Since Lake Powell is a Federal Reclamation project, contracts are required under Reclamation Law. The Water Service Contract would specify the terms by which water could be diverted from Lake Powell and the relative responsibilities of the diverting party and of the Untied States. The Bureau of Reclamation usually assesses a fee associated with the water service. The current fee for a new contract would be $7.50 per acre foot.

**Lower Basin Legal Availability**

The Colorado River Compact defines the term “Lower Basin” as “…those parts of the States of Arizona, California, Nevada, New Mexico, and Utah within and from which waters naturally drain into the Colorado River System below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System below Lee Ferry.” In the *Arizona v California* case, the US Supreme Court differentiated the legal system of allocation and entitlement in the Lower Basin between diversions from
the mainstream of the Colorado River and diversions from tributaries. Of the five states located within the Lower Basin, only Arizona, California, and Nevada have access to the supply of the mainstream of the River. Lower Basin uses in New Mexico and Utah are exclusively from tributaries. Legal entitlements to all diversions from Lower Basin tributaries are subject to applicable state laws. Legal entitlement to Lower Basin mainstream diversions of Colorado River water are controlled by Federal law. Article II (B) (1) of the Decree establishes the basic State entitlements of Lower Basin water as follows: “If sufficient mainstream water is available for release, as determined by the Secretary of the Interior, to satisfy 7,500,000 acre-feet of annual consumptive use in the aforesaid three States, then of such 7,500,000 acre-feet of consumptive use, there shall be apportioned 2,800,000 acre-feet for use in Arizona, 4,400,000 acre-feet for use in California, and 300,000 acre-feet for use in Nevada.” ADWR, representing the views of the State of Arizona, believes that the three state apportionments are for exclusive use in each state and there is no legal mechanism for a direct interstate transfer of apportionment. Article II (B) (6) of the Decree does allow the temporary use of water by a state if there is unused apportionment in another state. This “temporary use” provision allowed California to make use of unused Arizona apportionment for several decades until the CAP became fully operational and Arizona water demands increased sufficiently.

The term “Consumptive Use” is critical to the Lower Basin allocation system and is defined in the Decree as “… diversions from the stream less such return flow thereto as is available for consumptive use in the United States or in satisfaction of the Mexican Treaty obligation.” Since much of the water diverted the region along the Colorado River finds its way back to the River as return flow, the amount of water that may be diverted within Arizona is significantly higher than the amount of consumptive use. For example, in 2004 the Bureau of Reclamation estimated that the diversions of Colorado River water for use in Arizona were 3,630,062 acre feet even though the consumptive use was estimated to be 2,784,645 acre feet. However, it is important remember that water that is diverted away from the River, such as through the Central Arizona Project (CAP) or a potential Western Navajo Pipeline project will have no return flow and will entirely be considered to be consumptive use.

Article II (B)(5) of the Arizona v. California Decree states “…mainstream water shall be released or delivered to water users (including but not limited to, public and municipal corporations and other public agencies) in Arizona, California, and Nevada only pursuant to valid contracts therefor made with such users by the Secretary of the Interior, pursuant to Section 5 of the Boulder Canyon Project Act or any other applicable federal statute.” Contracts issued pursuant to Section 5 of the BCPA are for delivery of water from what at the time was called Boulder Dam Reservoir but is now referred to as Lake Mead. Deliveries may be either directly from Lake Mead or from releases made downstream of Lake Mead. There is a minimal charge for water delivery of from $.25 to $.50 per acre foot per year associated with these contracts.

ADWR, believes that the Secretary of Interior’s Section 5 contracting authority does not extend upstream of Lake Mead and that a contract for a Lower Basin delivery of
Colorado River water in that instance would need to be authorized by specific legislation. Notwithstanding ADWR’s current legal interpretation, a Section 5 contract for a diversion above Lake Mead has been issued by the Bureau of Reclamation to the Marble Canyon Company for 70 acre feet per year.

In 1944, Arizona ratified the Colorado River Compact and signed a Water Delivery Contract with the Secretary of the Interior for the right to consumptively use 2.8 million acre feet per year plus 46% of any surplus supply. This contract is often viewed as a “Master Contract” and does not anticipate that the State of Arizona itself would actually be a water user or water provider. Individual Section 5 contracts were to be issued to the actual individuals, irrigation districts, corporations or political subdivisions that are the water diverting entities. The 1944 Contract required that any consumptive uses upstream from Lake Mead, including uses from tributaries, would be counted against the State’s Lower Basin entitlement. The Arizona v. California judgment invalidated the requirement to count tributary uses, but left in place the requirement to count any consumptive uses from the mainstem between Lees Ferry and Lake Mead. The 1944 Arizona master contract appears to envision opportunities for diversion of Colorado River water upstream from Lake Mead by including within Section 7 (i) “Nothing in this contract shall preclude the parties hereto from contracting for storage and delivery above Lake Mead of water herein contracted for, when and if authorized by law.” (Emphasis added)

Colorado River Section 5 contracts may be split into two categories: contracts directly between a water user and the Department of the Interior, and contracts for Central Arizona Project water. Non-Federal water users who divert directly from the River or from wells located in proximity to the River hold individual Section 5 contracts. A master contract for diversions for the CAP is held by the Central Arizona Water Conservation District (CAWCD). CAP Indian Tribes hold individual water delivery contracts with the Secretary and are not covered directly by the CAWCD contract. Non-Indian CAP water users are required to sign a sub-contacts with CAWCD and Department of the Interior. The sub-contracts entitle them to deliveries through the CAP project system. The sub-contracts also specify financial terms and payment obligations.

**Lower Basin Allocations and Entitlements**

Allocations and entitlements of Colorado River water have developed over many years. The words “allocations” and “entitlements” are often used interchangeably in Colorado River discussions. The primary difference is that an allocation is a determination made by the Secretary of the Interior on the volume of Lower Basin Colorado River water he intends to offer to an individual, Indian tribe or other entity in a contract. An entitlement is the volume of water reflected in the US Supreme Court Decree in Arizona v. California or in a Section 5 contract between a water user and the Secretary of the Interior. The oldest rights are known as present perfected rights and they are water allocations based on water appropriation prior to June 25, 1929, which is the effective date of the Boulder Canyon Project Act. These rights have been adjudicated and quantified by the U.S. Supreme Court in the Arizona v. California Decree.
Adjudicated Federal reserved rights were also granted present perfected rights status even if the full amount of the water right has not yet been fully developed. Contracts for water after 1929 are generally associated with Bureau of Reclamation water projects, although some contracts were issued to municipal water providers and small irrigators who were capable of developing their own supplies through diversions, pumps in the River, or wells. After the CAP was authorized by Congress in 1968, the Department of the Interior began seeking recommendations for allocations of the remaining portion of Arizona’s entitlement. Recommendations were made by the Arizona Water Commission and its successor agency, the ADWR. Generally, the Department of the Interior concurred with the State agencies and offered contracts based on those recommendations. The Department of the Interior retained the responsibility to allocate water for Indian reservations and other Federal purposes. The same process was used for allocation of CAP water. CAP water has been the subject of several rounds of allocations since many of the entities who originally sought an allocation refused to sign sub-contracts once they were offered. There is currently approximately 11,085 acre feet of unallocated mainstem Colorado River water and approximately 155,000 acre feet of unallocated CAP water. Of this amount 3,500 acre feet of mainstem water is being reserved for future Indian water rights settlements as is 68,518 acre feet of CAP water. The remaining balances of 7,585 acre feet of Priority 4 water on the mainstem and 87,269 acre feet of CAP NIA priority water are available for future allocation to non-Indian water users.

A listing of Arizona entitlement holders and Section 5 Contracts is shown in the following tables. A discussion regarding the Arizona priority system was described in the section of this report concerning Physical Availability. Figures 3a through 3d shows the geographic locations of the largest contractors listed in the tables.
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**Priority 1 - Present Perfected Rights**
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<td>Imperial National Wildlife Refuge</td>
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Figure 3a

Colorado River Contracts
Hoover Dam to Davis Dam

Contractors:
1. Marble Canyon-70 AF (see inset)
2. Western States Minerals-70 AF
3. Gold Standard Mine-75 AF
4. Mc Alister Subdivision - 40 AF

Colorado River Dams

The information displayed on this map is for planning purposes and is subject to change without notice.

Scale: 1:600,000

Arizona Department of Water Resources
Colorado River Management Section
May 04, 1999
Colorado River Contracts
Davis Dam to Parker Dam

5. Bullhead City - 15,210 AF
   Subcontract with MCWA - 6,000 AF

6. Kingman - Assigned to Mohave County Water Authority (MCWA) - 18,500 AF

7. Mohave Water Conservation Dist. - 1,800 AF
   Subcontract with MCWA - 3,000 AF

8. Ft. Mohave Indian Reservation - 103,535 AF

9. Mohave Valley Irrigation and Drainage Dist. - 41,000 AF

10. Golden Shores Water Conservation District - 2,000 AF

11. Havasu National Wildlife Refuge - 61,839 AF

12. Crystal Beach - 132 AF

13. Havasu Water Company - 993 AF

14. Lake Havasu - 10,186 AF
   Subcontract with MCWA - 6,000 AF

15. Bureau of Land Management - 4,010 AF

16. Arizona State Parks Board - 90 AF for Windsor Beach
    20 AF for Contact Point

17. Lakeview City - 400 AF
   Included in ASLD M61 request for 1680+ AF

18. Hillcrest Water Co. - 84 AF


Lake Havasu City
Lake Havasu

Colorado River Dams

The information displayed on this map is for planning purposes and is subject to change without notice.

Scale: 1:500,000

Arizona Department of Water Resources
Colorado River Management Section
May 07, 1999

27
Figure 3d
Process for Obtaining a Colorado River Legal Entitlement

Despite the long history of Colorado River allocations and contracting practices, there is no direct streamlined approach to obtaining a Colorado River allocation. While a limited market has emerged for water entitlement transfers, there clearly is no “Colorado River Water Market” where shares of water supply are bought and sold like a commodity. Recent transactions have been in the form of carefully negotiated business negotiations which, if successfully concluded, were subject to policy review by the State and regulatory review by the US Bureau of Reclamation. What has evolved over time is the experience in dealing with allocation and transfer processes as well as the establishment of precedent that has may be relied on for future transactions. The types of business transactions that have developed into this limited market include new allocations of uncontracted or relinquished water, assignments of contract entitlements to successors in interest, full or partial transfers of entitlement to from the contract holder to a new party, and short-term and long-term leases of contract entitlements.

Arizona state law provides a limited amount of guidance in dealing with Colorado River contracts. A.R.S. 45-§107.C and D were enacted in 1996 to address state policy issues. These provisions state:

107 C. The privilege and right of individuals, irrigation districts, corporations, state departments, agencies, boards, commissions or political subdivisions of the state of Arizona to negotiate and directly contract with the secretary of the interior for the delivery of water of the main stream of the Colorado river for use within the state of Arizona and to negotiate and subcontract with the secretary of the interior and a multi-county water conservation district for the delivery of Colorado river water through the central Arizona project for use within the state of Arizona, and all rights under such contracts or subcontracts shall not be affected by the provisions of this section, except as provided in subsection D.

107 D. Individuals, irrigation districts, corporations, state departments, agencies, boards, commissions and political subdivisions of the state shall cooperate, confer with and obtain the advice of the director (of ADWR) as to those negotiations, contracts and subcontracts described in subsection C that affect the allocation and use of main stream Colorado river water or the allocation and use of Colorado river water delivered through the central Arizona project. For a proposed contract or subcontract or a proposed amendment of a contract or subcontract that will result in a transfer of an allocation or entitlement of Colorado river water, including central Arizona project water, from a non-Indian Arizona contractor or subcontractor for a term of more than one year, the obligation to cooperate, confer with and obtain the advice of the director (of ADWR) shall include the obligation to submit to the director (of ADWR) for review the proposed contract or subcontract or the proposed amendment, and all related exhibits and agreements, prior to its execution by the contractor or subcontractor.
This statute makes it clear that individuals and other entities are free to seek water mainstream and CAP allocations including transfers, but that in doing so, they must submit their plans to ADWR for policy review and comment. Review and comment are not the same as approval; but in practice, the approving agency, the U.S. Bureau of Reclamation has relied heavily on ADWR’s opinion.

As described above, approximately 7,585 acre feet of mainstream Priority 4 water and 87,269 acre feet of CAP NIA Priority water are available for future allocation to non-Indian water users. There has been no request by the US Bureau of Reclamation to request a recommended allocation of this relatively small volume of Priority 4 mainstream water. At some time in the future the Bureau of Reclamation may be prompted to request a recommendation, or the impetus may come from state parties who request action through ADWR. The primary reason for holding back on such a recommendation is probably related to the need to complete a study which will determine if there are existing Arizona water users who may be diverting Colorado River water without a Section 5 contract (i.e. illegal diverters). Water use may have been established by various individuals who have drilled wells in the Colorado River floodplain aquifer with the understanding that they would legally be pumping non-appropriable groundwater rather than the subflow of the Colorado River. The Bureau of Reclamation is currently undertaking hydrologic investigations to establish zones where it is believed withdrawals are probably subflow. Once those zones are definitively established, through the official adoption of a rule or regulation, owners of wells will either have to obtain legal entitlements or abandon their wells. Once this potential issue is resolved ADWR may be willing to entertain expressions of interest by water users who are interested in obtaining additional Colorado River allocations. NAMWUA members would be eligible to apply for the water supply at that time. The criteria that ADWR would utilize in making an allocation recommendation is unknown, but based on past recommendations it is likely they will be based on demonstrated need, use of the renewable Colorado River water as a replacement of mined groundwater, and the demonstration of the ability to put the water to use through existing or planned infrastructure. Since the demand for this unallocated water will be extremely high and the supply relatively small, ADWR will probably not make a pro rata allocation, but would more likely allocate the water based on a relative ranking of critical evaluation factors. Entities that have expressed the greatest interest in the unallocated water are located in Mohave County including Bullhead City and Lake Havasu City. In seeking an allocation of the mainstem supply NAMWUA members should keep in mind that the 7,585 acre feet represents a diversion entitlement and no a consumptive use entitlement. Since there is no history of use for this water, the Bureau of Reclamation may allow this diversion to be fully consumed. They could also limit the consumptive use by assuming that some of the water would have resulted in return flow had it been allocated to a water user located along the River.

The CAP NIA priority water available for allocation is subject to the terms of various agreements that were negotiated as a part of the Arizona Water Settlements Act (P.L. 108-451). The Arizona Water Settlements Act completed a process of negotiations of a number of water related issues that involved the Federal government, CAWCD, the
State of Arizona, the Gila River Indian Community, the Tohono O’odham Nation, and numerous cities and irrigation districts. In the process of settling a major dispute between CAWCD and the Federal government over the repayment obligations for the CAP, the parties agreed to a significant change in the allocations of CAP water. The terms for implementing many of the provisions related to CAP water supplies and allocations are set forth in a document titled the Arizona Water Settlement Agreement. A copy of the Agreement is attached as Appendix C. The total CAP water supply was quantified at an assumed volume of 1,490,000 acre feet per year. This assumed volume would yield a deliverable water supply of 1,415,000 acre feet per year after accounting for an average delivery loss of 5%. The agreement provided that the previously unquantified allocations of NIA priority water would be quantified and that the total contracted entitlements will not exceed the 1,415,000 acre foot value. In exchange for relief from repayment of distribution system loans and a guarantee of low cost water for 30 years, all of the CAP irrigation districts agreed to relinquish their existing contract rights and any rights they may have for unallocated water. The Arizona State Land Department exercised an option to obtain 9,026 acre feet associated with irrigated lands it owns within two Pinal County irrigation districts. The majority of relinquished rights were used to provide water entitlements to assist in settling the water rights claims of the Gila River Indian Community and the Tohono O’odham Nation. An additional volume of 67,300 acre feet of NIA priority water is reserved for future Indian water rights settlements.

The balance of the NIA priority water, approximately 87,269 will be held in Trust by ADWR for future allocation to non-Indian M&I water users within the State of Arizona. Since the Agreement did not specify that the M&I water users must be located within the CAWCD three county service area, NAMWUA members should be eligible to apply for an allocation of the Trust Water. Under the terms of Paragraph 9.3 the Arizona Water Settlement Agreement, ADWR may not make an initial allocation recommendation until the year 2010. At that time an allocation of a portion all of the water may be made. A restriction was placed on the allocation of all of the water in order to grant a right of first refusal to M&I water providers located within the Maricopa Stanfield Irrigation District and the Central Arizona Irrigation District. If rights of first refusal are not exercised, then they carry forward to potential ADWR allocation recommendations in the years 2020 and 2030. Since the Arizona State Land Department has retained the contract entitlement to 9,026 acre feet, that amount will be subtracted from the right of first refusal calculation.

All NIA priority water allocations, either for Indian settlement uses or for M&I uses retain their low priority relative to Indian Priority and M&I Priority. As described in the Physical Availability section of this report, NIA priority allocations will be reduced to zero before either of the co-equal higher priority entitlements are reduced at all. Due to the low priority of this water supply, it is unlikely that it can be used directly for the demonstration of an assured or adequate water supply, unless it is combined with a reliable backup supply. At this time ADWR has not specified the criteria it will use in making its recommendation for “Trust Water” allocations. In the past, ADWR has relied heavily on a demonstration of need based on an evaluation of existing renewable supplies and the projected demands within a water provider’s service area. However, since the
NIA “Trust Water” has such a high degree of shortage potential, ADWR may add new factors for consideration to ensure that the provider can “firm” the supply before it is committed to M&I uses. Since there are also some financial considerations related to repayment to CAWCD for funds advanced to pay for irrigation distribution system debts, ADWR may also require a demonstration of the ability to pay for the allocation. Considering the difficulties that CAP exchange contractors experienced in utilizing their initial CAP M&I allocations, it is likely that ADWR will require that the potential allottees are able to demonstrate the ability to put the water to use. In spite of the low priority of the NIA water it is still likely that there will be a greater demand for these allocations than there will be available supply.

**Colorado River Contract and Central Arizona Project Related Transactions**

In addition to water allocations another approach to obtaining a Colorado River or CAP entitlement is through a purchase or lease agreement. There have been a number of these types of agreements carried out, although many have been related to Indian water rights settlements. In anticipation of future market transactions, ADWR has prepared two substantive policy statements to guide potential purchasers as to ARS 45-107.D consultation requirements. They are titled “Policy and Procedures for Transferring an Entitlement of Colorado River Water” and “Revised Policy Regarding Transfer of Central Arizona Project Municipal and Industrial Water Subcontract Entitlements.” Copies of these policy statements are attached as Appendix D. Of particular interest to NAMWUA members is the section dealing with Quantification of an Entitlement Available for Conveyance or Lease which states: “The amount of water available for conveyance or lease will be limited to the quantity of water that will result in a consumptive use that is no greater than the maximum amount of the entitlement. During the review of an application to transfer, the Director will consider several factors. These factors include the past and reasonable future quantity of consumptive use of water associated with the entitlement, potential negative impacts to the water supplies of other Colorado River entitlement holders, water quality impacts related to return flows and other pertinent impacts that could occur as a result of the proposed transfer.” The implications of this policy are that when a diversion contract is purchased or leased, the volume of the entitlement may be reduced to its consumptive use equivalent. This is relevant to NAMWUA members since they intend to transport water away from the River so there will be no return flow component. In considering a purchase of a diversion entitlement, NAMWUA members may need to anticipate a reduction in the “face value” of that entitlement by 25% to 35%.

The following sections describe most of the transactions that have taken place regarding Colorado River entitlements and CAP subcontract entitlements. The transactions of the Mohave County Water Augmentation Authority may have particular interest to NAMWUA members. The Augmentation Authority was established by ARS 45-2201 through 45-2283 as a County Water Authority. The primary purpose of the Augmentation Authority was to form a cooperative effort by Mohave County municipal water providers to secure Colorado River entitlements on a regional basis. To date they have successfully obtained the entitlements to water through transfers of the City of
Kingman contract and a portion of the Cibola Valley Irrigation District contract. In the Cibola Valley negotiation, the Hopi Tribe formed a partnership with the Augmentation Authority which resulted in a larger transaction.

**Mainstream Contract Transactions**

- **Ak Chin Indian Water Rights settlement acquisition from Yuma Mesa Division of the Gila Project (1984)** – In 1978 the Congress enacted the Ak Chin Indian Community Water Rights Settlement Act (P.L. 95-328). In 1984 that Act was amended and the revised settlement act became P.L. 98-530. The revised settlement authorized the Secretary of the Interior to obtain contract rights to 50,000 acre feet per year from the undeveloped portions of the Yuma Mesa Division of the Gila Project located in the vicinity of Yuma. The majority of the undeveloped water was associated with future development in the Yuma Mesa Irrigation and Drainage District. In the Act, Congress authorized the discharge of any remaining repayment debt for the Yuma Mesa Irrigation and Drainage District, the North Gila Valley Irrigation and Drainage District, and the Yuma Irrigation District. The three districts were also free from the full cost pricing provisions of the Reclamation Reform Act. An additional $5.4 million was appropriated to the Yuma Mesa IDD for the purposes of replacement, rehabilitation, and repair of its delivery system. For the purposes of water conservation and drainage measures appropriations were authorized for $2 million for Yuma Mesa IDD and $1 million each for Yuma IDD and North Gila Valley IDD.

- **Salt River Pima Maricopa Indian Water Rights settlement acquisition from Wellton Mohawk Irrigation District (1989)** – The Salt River Pima Maricopa Indian Community Water Rights Settlement Act of 1988 (P.L. 100-512) authorized the Secretary of the Interior to acquire 22,000 acre feet of Priority 3 Colorado River contract rights from the Wellton Mohawk Irrigation and Drainage District near Yuma. The Act provided that the remaining repayment debt of Wellton Mohawk could be discharged and the irrigated lands would not be subject to the restrictions of the Reclamation Reform Act regarding full cost pricing of water. The Cities of Chandler, Glendale, Scottsdale, Tempe, Mesa, and Phoenix and the Town of Gilbert contributed $9 million to fund the acquisition of the rights to the water.

- **Mohave County Water Augmentation Authority assignment of contract rights from the City of Kingman (1995)** – In 1968 the City of Kingman signed a contract for 18,500 acre feet per year of Priority 4 Colorado River water. Because the City was not located adjacent to the Colorado River and a pumping plant and pipeline would be needed to deliver the water, the contract was subject to review after 25 years. Kingman was unable to develop a project, but did not wish to lose the benefit of the contract. In 1995 the other major municipal water providers within Mohave County obtained state legislation to create the Mohave County Water Authority. Once organized, they negotiated an agreement with Kingman to assign the contract rights. The Department of the Interior agreed to an assignment of 15,000 acre feet but withheld 3,500 acre feet for use in future Indian water rights settlements. The Kingman water was allocated as follows: Bullhead City, 6,000 acre feet; Lake
Havasu City, 6,000 acre feet; and Mohave Water Conservation District, 3,000 acre feet. The recipients of the water contracts agreed to pay $500 per acre foot to Water Authority, payable over 15 years with a holding charge of $3 per acre foot, all adjusted by the cost of living index. The revenues, less 10%, were granted to Kingman to be used for their future water development. As a result of the Arizona Water Settlements Act of 2004 (P.L. 108-451) the 3,500 acre feet withheld by the Secretary of the Interior will be released for further allocation within the Mohave County Water Augmentation Authority.

- **Mohave County Water Augmentation Authority and the Hopi Tribe acquisition of contract rights from the Cibola Valley Irrigation District (2004)** – In November 2004 the Mohave County Water Augmentation Authority executed a purchase agreement to obtain 5,907 acre feet of Priority 4 Colorado River water from the Cibola Valley Irrigation District (CVID). The Hopi Tribe executed a similar purchase agreement to obtain an equal amount of water. The Conservation Fund acted as an intermediate owner to carry out the transaction with the CVID landowners. The transaction required the purchase of 1,309 acres of land by MCWAA and a similar amount by the Hopi Tribe. The water may later be severed from the original land allowing the Cibola Valley land to be re-sold. The purchase price for MCWAA was $8,395,800. The purchase agreement contains a provision that states that the purchase price is less that the fair market value given the status of MCWAA as a political subdivision within the meaning of Section 170(c)(1) of the Internal Revenue Code, under Section 7871(a)(1)(A) of the Internal Revenue Code.

**Central Arizona Project Related Transactions**

- **Fort McDowell Indian Water Rights settlement acquisition of contract rights from the Harquahala Irrigation District (1992)** – The Fort McDowell Indian Water Rights Settlement Act of 1990 (P.L. 101-628) authorized the Secretary of the Interior to purchase the CAP contract rights from the Harquahala Valley Irrigation and Drainage District (HVIDD). This transaction was completed in December 1992 through a three party agreement involving the Department of the Interior, the Central Arizona Water Conservation District, and the HVIDD. Under the terms of the agreement no land within the HVIDD were purchased. The CAP subcontract and water allocation were relinquished by HVIDD and transferred to the Interior Department. In accordance with the Settlement Act, the subcontract allocation was converted to Indian priority at a rate of 1 acre foot per acre, resulting in a water supply availability of 33,311 acre feet per year. This contact right was used to complete the Ft. McDowell water rights settlement and the Gila River Indian Community settlement. The cost of the purchase of the contract was $34.5 million in cash payment plus the elimination of a $25.5 million loan by the Federal Government to the HVIDD associated with the construction of the HVIDD distribution system. According to a GAO report concerning the acquisition, the Federal Government valued the loan forgiveness at only $6.7 million based on its present value discounted at an interest rate of 7.5%.
Cliff Dam Replacement Project acquisition of contract rights from the Hohokam Irrigation and Drainage District (1993) – In December 1993 the central Arizona cities of Phoenix, Mesa, Chandler and Scottsdale entered into an agreement with the Hohokam Irrigation and Drainage District (HIDD) to transfer HIDD’s CAP subcontract rights. Six cities, including the additional cities of Tempe and Glendale, had originally contributed to pay for upfront financing of the proposed Cliff Dam on the Verde River. The Cliff Dam project was subsequently eliminated from the Central Arizona Project. The Bureau of Reclamation, at the request of the Arizona Congressional delegation, facilitated efforts to find a replacement to the Cities for the water supplies they had anticipated from their prior financial contributions. After reviewing several alternatives, the purchase of the HIDD subcontract rights was chosen. The HIDD subcontract was for 6.36% of the available non-Indian agricultural supply with the opportunity to contract for an additional 0.61% that resulted from a re-allocation decision. Through the subcontract assignment agreement the Cities assumed this allocation and divided the entitlement as follows: Chandler, 6.24%; Mesa, 10.41%; Phoenix, 76.41% and Scottsdale, 6.94%. Tempe and Glendale chose not to participate as participating cities. Under the terms of the Agreement, the subcontract entitlement would remain as non-Indian agricultural priority until the year 2044, but then it could be converted to M&I priority. In order to obtain the subcontract rights, the Cities agreed to pay most of the HIDD outstanding private and federal debt associated with HIDD’s CAP distribution system. The amount paid was $27,871,000 for the Federal indebtedness and $3,558,900 for the private bond indebtedness. In 2002 an agreement was reached between the Central Arizona Water Conservation District, the State of Arizona, and the Department of the Interior to revise the CAP water allocations. As a result of the revisions, the HIDD subcontract was converted from a percentage basis to a fixed volume basis. This fixed volume was determined to be 47,303 acre feet per year. The HIDD water would still be convertible from non-Indian agricultural priority to M&I priority in the year 2044. As a result of the new agreement the distribution of the HIDD subcontract right was as follows: Chandler, 2,952 acre feet; Mesa, 4,925 acre feet; Phoenix, 36,144 acre feet; and Scottsdale, 3,283 acre feet.

City of Scottsdale CAP water exchange subcontract acquisitions (1995) – The original allocation of CAP water included allocations to several water users who could only receive the water by executing an exchange agreement. For example, CAP water could be delivered to the Cottonwood Water Company if Cottonwood were to divert water from the Verde River and then have its CAP water exchanged with the Salt River Project (who holds the water rights to the Verde River) downstream. Beginning in 1995, the exchange contractors were obligated to make “take-or-pay” payments to the Central Arizona Water Conservation District or face forfeiting their contract entitlements. This prompted the exchange contractors to consider selling their contract allocations. The City of Payson was the first exchange entity to market its contract. The City of Scottsdale was the purchaser. The next year most of the remaining exchange contractors also transferred their contract entitlements to the City of Scottsdale. Under the terms of the transfer agreements, the net proceeds from the sale of entitlements could only be used for water resources
development by the selling exchange entity. The Arizona Department of Water Resources acts as trustee to ensure the funds are spent in accordance with the transfer agreements. The following table summarizes the transactions.

<table>
<thead>
<tr>
<th>Exchange Entity</th>
<th>CAP Allocation (AF)</th>
<th>Water Price ($/AF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payson</td>
<td>4,995</td>
<td>$1,080</td>
</tr>
<tr>
<td>Prescott</td>
<td>7,127</td>
<td>$1,000</td>
</tr>
<tr>
<td>Nogales</td>
<td>3,949</td>
<td>$1,100</td>
</tr>
<tr>
<td>Cottonwood Water Co.</td>
<td>1,789</td>
<td>$1,000</td>
</tr>
<tr>
<td>Camp Verde Water Co.</td>
<td>1,443</td>
<td>$1,000</td>
</tr>
<tr>
<td>Mayer</td>
<td>332</td>
<td>$1,000</td>
</tr>
<tr>
<td>Rio Rico Water Co.</td>
<td>2,683</td>
<td>$1,100</td>
</tr>
<tr>
<td>Yavapai Prescott Indian Tribe</td>
<td>500</td>
<td>$1,080</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22,815</strong></td>
<td></td>
</tr>
</tbody>
</table>

- **CAP Indian Water Rights Settlement related leases** –
  
  o **Salt River Pima Maricopa Indian Community Leases (1989)** – The Salt River Pima Maricopa Indian Community Water Rights Settlement Act of 1988 (P.L. 100-512) allows the Community to enter into long term leases of its CAP allocations. The companion Settlement Agreement contained lease agreement with seven Maricopa County cities and towns. A total of 13,300 acre feet of CAP Indian priority water were leased for a period of 99 years beginning in the year 2000. The leasing entities are: City of Phoenix, 3,023 acre feet; City of Chandler, 2,586 acre feet; City of Glendale, 1,814 acre feet; City of Scottsdale, 60 acre feet; City of Tempe, 60 acre feet; City of Mesa, 1,669 acre feet; and the Town of Gilbert, 4,088 acre feet. Lease terms required an up front payment by the cities and towns to the Community of $1,100 per acre foot. The cities and towns were then responsible for all costs associated with the delivery and treatment of the CAP water, although they were not required to pay capital repayment charges.
  
  o **Ft. McDowell Indian Community Leases (1990)** – The Fort McDowell Indian Community Water Rights Settlement Act of 1990 contains provisions allowing the Community to lease its CAP allocation for off reservation uses for a period of up to 99 years. One such lease agreement, with the City of Phoenix, was completed with the first year of the lease in 2001. The lease amount was 4,300 acre feet per year of Indian priority CAP water. The lease costs the City an upfront fee and then all additional costs for purchase and delivery of the CAP water are also borne by the
City. The City is not required to pay any additional capital repayment charges since the water remains categorized as Indian water and therefore is not subject to a Federal repayment obligation. The Community holds additional 13,933 acre feet of CAP water that is eligible for future leases.

- **Ak Chin Lease to Del Webb (1996)** – The Ak Chin Indian Community Water Rights Settlement Act amendment of 1992 allows the Ak Chin Community to enter into long term lease agreements for the off-reservation use of the Ak Chin Community’s CAP water. One lease has been completed in 1996 with the Del Webb Corporation. The lease, which is for a term of 100-years, was used to demonstrate an assured water supply for Del Webb’s Anthem developments in Maricopa County near the community of New River. Reported terms of the lease are for 10,000 acre feet per year with an up front payment of $12 million or the equivalent of $1,200 per acre foot. All additional fees for purchase, delivery and treatment of the CAP water will be borne by Del Webb.

- **San Carlos Apache Tribe Leases (2000)** – The San Carlos Apache Tribe Settlement Act of 1992 (P.L. 102-575) contains provisions which allow the Tribe to lease its CAP Indian and M&I priority water supply for off reservation uses within Maricopa, Pima, and Pinal Counties. The City of Scottsdale entered into a lease with the Tribe for 12,500 acre feet of Indian Priority CAP water. The lease terms are for a period not to exceed 100 year period but the leases are renewable. Leasing cities are required to pay an upfront payment equal to $1,200 per acre foot. Future leases will pay that fee subject to indexing for inflation utilizing the consumer price index. In addition to the above mentioned general leasing authority, Congress authorized a specific lease of San Carlos Apache Tribe CAP water to the Phelps Dodge Corporation. P.L. 105-18 provided for a lease of 14,000 acre feet per year of M&I priority CAP water to the mining company for a period of up to 50 years with the right to renew for another 50 years. The cost of the lease was listed as $1,200 per acre foot payable partially up front and partially as annual payments.

- **Gila River Indian Community Leases (2004-present)** –The Gila River Indian Community Water Rights Settlement Act of 2004 (P.L. 108-451) authorizes the Community to enter into long term (not to exceed 100 years) leases of its CAP contract entitlements with entities located in ten counties within Arizona. The associated Settlement Agreement contains proposed lease agreements totaling 41,000 acre feet per year of CAP Indian priority water. The proposed lessees are Goodyear, 7,000 acre feet; Peoria, 7,000 acre feet; Phoenix, 15,000 acre feet; and Scottsdale, 12,000 acre feet. The 41,000 acre feet per year total are not a limit and other leases could occur in the future. Each leasing City is responsible for payment of all delivery and treatment costs associated with the CAP water, but do not have to pay a capital repayment component. An upfront
lease payment must be made and terms for the payment are described in the lease agreements. The lease payment is based on a base rate of $1,203 per acre foot in December 1993 costs. This value is subject to indexing using the latest consumer price index for all urban consumers. The using the formula set forth in the lease agreement, the current lease rate (November 2006) would be $1,760 per acre foot. The Settlement Agreement also provides for a lease by the Phelps Dodge Corporation of 12,000 acre feet per year of Indian Priority CAP water for a term of 50 years with an option to renew for an additional 50 years. An initial payment of $4.8 million (subject of indexing for inflation) is associated with this lease. Phelps Dodge also has an option for an additional lease of 10,000 acre feet per year. If the option is exercised, Phelps Dodge will make a lease payment based on a fair market value determination.

**Opportunities for Future Colorado River and CAP Transactions**

The best opportunities for future transactions will be for transfers of agricultural related entitlements or leases from Indian tribes related to water rights settlement agreements. Very few if any M&I contractors or subcontractors will be willing to give up a portion or all of their entitlements, even for a high price. These entities realize that Colorado River water or CAP supplies will be crucial for demonstrating assured and adequate water supplies that are required for subdivision approvals. The ADWR policy statement for CAP M&I transfers encourages transfers to remain in the same geographic area as the original subcontract. This will create a significant hurdle for a NAMWUA transaction where the water would be moved outside of an Active Management Area to a different part of the state.

A potentially attractive marketing opportunity would be a lease with the mainstream Indian tribes who hold present perfected rights adjudicated in the *Arizona v. California* Decree. However, leases of these rights are problematic without specific Congressional authorization. In the late 1990’s the Chemehuevi Tribe in California applied to the Bureau of Indian Affairs to lease a portion of its unused present perfected rights to a private water company. Comments on the proposed lease by ADWR, representing the views of the State of Arizona, and others challenged the legality of the lease proposal. ADWR contends that the Colorado River present perfected right is a property right held in trust for the Indian Reservation and while it can be leased with land on the Reservation it cannot be severed from the Reservation for use elsewhere. The Indian Non-intercourse Acts prohibit the transfer of Indian property without an act of Congress. Facing potential litigation, the Chemehuevi Tribe withdrew their proposed lease, but no legal finding was made and it remains an open issue of whether or not Indian present perfected rights can be leased. Nevertheless, it would probably be unwise for NAMWUA to challenge the State of Arizona’s legal position by attempting to negotiate such a lease.

Long term leases with Indian tribes have been successfully negotiated as a result of an Indian water rights settlement that was approved by an act of Congress. To date,
only tribal CAP water has been authorized for lease. One reason for the leasing provisions was to allow a financial contribution to the settlement by non-Federal parties. Revenues from the leases could be invested to create a trust account to “buy down” the price of CAP water for on-reservation uses. Many of the Indian lease agreement contain geographic restrictions as to where the water may be leased. In no case may the water be leased out of the State of Arizona. Only the settlement for the Gila River Indian Community specifically authorizes a lease of CAP water to entities in Coconino or Yavapai Counties.

The Cibola Valley Irrigation District has successfully marketed a major portion of its Priority 4 entitlement. It has been the only Colorado River agricultural contractor who has actively pursued a sale. Other agricultural contractors may be interested in selling if market conditions for agricultural production resulted in unprofitability or if the price was right. Many of the largest agricultural contractors are potentially in the path of future urbanization and would prefer to hold on to their water rights to make that urbanization more likely by providing a water supply with the land conversion. With these considerations in mind, the following attributes may be used in identifying potential water transfer candidates: 1) Agricultural use; 2) Willing sellers; 3) Large entitlement so a portion could be sold without as much economic impact on the local region; 4) Located in areas where irrigation is less profitable; 5) Located outside of the path of urbanization and; 6) Existing contracts are for consumptive use so there will be less reduction in the face value of the entitlement than if the contract was for diversion use.
Cost Considerations

Colorado River water is essentially free. However, if you want to divert the water and put it to beneficial use, there are a variety of cost considerations. Most of the costs are associated with paying for the massive infrastructure of dams and aqueducts which enable the water to be used. Other costs are associated with operation and maintenance of those water facilities. Still others may be associated with the cost of acquisition of water entitlements. The purpose of this section of this Report is to discuss some of these potential costs in a qualitative rather than quantitative fashion. Many of the future costs of Colorado River transactions are based on a negotiated price, and still others have not yet been determined.

Water Service Charges

The Bureau of Reclamation assesses a charge for diversions of water from its facilities. The current charge for municipal and industrial water associated with releases from Lake Mead is only $.50 per acre foot. The current charge for water service from Lake Powell is $7.50 per acre foot. CAP water users do not pay this charge independently since it is included in payments made to CAWCD based on that agency’s adopted rates.

Colorado River Water Allocation Acquisition Costs

Costs associated with acquiring an allocation of a portion of the remaining 7,585 acre feet of on-River priority 5 water will mostly be associated with the application process. Assuming ADWR would begin an allocation process, NAMWUA members who apply would need to file an application containing specified information about their water resources and demands. In the past, many of the applicants have hired attorney or consultants to assist in the application process. There should not be a filing fee for applying with ADWR. The Bureau of Reclamation will assess a charge associated with preparation of a new Section 5 water diversion contract.

CAP Water Allocation Acquisition Costs

Costs associated with acquiring a portion of the CAP NIA water which is held in trust by ADWR as a result of the Arizona Water Settlements Act will have some of the same components as those described for acquiring an on-River allocation. However, in addition to the application fees, there will be a significant charge associated with the repayment of irrigation district distribution system debt. This cost has not been estimated by CAWCD for several years, but when the agreements were being negotiated a rough estimate of from $300 to $500 was used. CAWCD has not developed a policy for payment of this fee.

Once a CAP allocation and subcontract is obtained, the successful entitlement holder would be subject to payment of other CAP related costs. CAP rates have a number of components, but only some may apply to a trust water allocation. A charge
that will likely apply is for Fixed OM&R which is the cost associated with the labor force periodic repairs costs to keep the CAP running. 2007 rates for fixed OM&R are $52 per acre foot but are expected to increase to $77 per acre foot by 2012. NAMWUA members would be expected to pay this charge once they begin using the CAP allocation, even if the water is not delivered through the CAP aqueduct system. A second variable charge for pumping energy, which is currently $35 per acre foot, would only be charged if the water is pumped through the CAP system. If water is instead pumped using a Western Navajo Pipeline or some other alternative means, pumping charges would not be assessed, but CAP Project power would not be available for the alternative project.

Capital charges are associated with the repayment of the CAWCD allocated portion of debt to the Federal government. Capital charges are currently $21 per acre foot and are assessed to municipal and industrial subcontractors on a “take or pay” basis. This charge is assessed even if the subcontractors do not need all of their allocations or have no way to receive the water. CAWCD is advising its customers that it expects the capital charge to be reduced to only $5 per acre foot starting in 2010. The reason for the reduction is related to the benefit CAWCD will receive from a new plan to market excess power from the Navajo Generating Station. With the increased revenue stream from power sales, CAWCD has decided it can lower the capital charge rate. CAWCD has not determined if a capital charge would even be assessed against the Trust allocations.

One additional charge that NAMWA members should be aware of is the Property Tax equivalency charge for customers who are outside of Maricopa, Pinal, or Pima Counties. The current Property Tax equivalency charge is $26 per acre foot and is expected to be about $30 per acre foot in the year 2012. This charge is assessed for each acre foot of CAP water purchased. The Property Tax Equivalency charge is related to A.R.S 48-3715.B which states:

B. The district board shall charge and collect a fee in lieu of taxes paid pursuant to subsection A for each acre-foot of central Arizona project water purchased or leased and delivered to or credited to a purchaser or lessee. The amount of this fee shall be computed by dividing the sum of the taxes levied in each county within the district pursuant to subsection A in the previous year in which the fee is charged by the average annual amount of Colorado river water delivered through the central Arizona project system for nonfederal municipal and industrial and agricultural use over the previous three years. This fee does not apply to:

1. Indian tribes with respect to water used directly on Indian reservation land in this state or on land owned in this state by the Indian tribe.
2. Water service providers whose customers are real property owners within the service area of the district and who pay the tax levied pursuant to subsection A. For purposes of this paragraph, "water service provider" means any person that has any obligation or duty of any nature to deliver water within the district's service area.
3. Persons who have entered into a contract with the district under which they agree to make payments in lieu of the tax levied pursuant to subsection A.
4. Persons that are real property owners within the service area of the district and that will use the water within the district's service area.
5. The Arizona water banking authority if that authority is acquiring water that will be used for the benefit of those persons prescribed in this subsection.

**Colorado River Entitlement Transfer Costs**

Should NAMWUA members seek to obtain an existing Colorado River entitlement for transfer, the costs could be quite high. As shown in the list of transactions above, the recent transaction between the Mohave County Augmentation Authority and the Cibola Valley Irrigation District was $8,395,800 to obtain the rights to 5,907 acre feet. This is equivalent to $1,421 per acre foot. However, if the transaction is calculated based on a consumptive use volume rather than a diversion value, the cost may be 25% to 35% higher or as much as $1,900 per acre foot. By way of comparison, the cost of a 100 year lease of CAP Indian Priority water from the Gila River Indian Community is currently about $1,850 per acre foot as a one time up-front cost. Both of these examples relate to Priority 4 entitlements. Market rates for a Priority 3 entitlement, such as a Wellton-Mohawk Irrigation District purchase or lease should be expected to be considerably higher.
Appendix A

- Draft Interim Guidelines for the Operation of Lake Powell and Lake Mead as extracted from the November 2, 2007 U.S. Bureau of Reclamation Final Environmental Impact Statement

- CAP Drought Analysis dated June 2007 prepared by the Central Arizona Water Conservation District
Appendix S

Draft Interim Guidelines for the Operation of Lake Powell and Lake Mead

The information provided in this Appendix S is intended to provide the public with draft information on the structure and content of the type of guidelines that the Department is considering that would implement the proposed federal action. This information is published herein in draft form, and is subject to further modification and refinement. Publication of this information does not represent any final determination by the Department on any of the issues addressed in these draft guidelines. Further, additional and updated information regarding the content and development of the information in these draft guidelines that would be implemented by a Record of Decision is anticipated to be provided to the public through the dedicated project website, (http://www.usbr.gov/lc/region/programs/strategies.html) following publication of this Final Environmental Impact Statement.
I. Introduction

A. Setting
[Text to be inserted]

B. Purpose and Need
[Text to be inserted]

C. Results of Scoping
[Text to be inserted]

D. Scope of Guidelines
[Text to be inserted]

II. Operational Setting

A. LROC
[Text to be inserted]

B. Interim Surplus Guidelines (ISG)
[Text to be inserted]

C. AOP
[Text to be inserted]
III. Conditions of Implementation

A. Forbearance

1. Role of Forbearance Agreements within the Context of the Law of the River and Relationship to Intentionally Created Surplus (ICS).

For the purposes of these Guidelines, the term “forbearance agreements” refers to agreements that a party who has a right to surplus Colorado River water could enter into that would provide that party’s agreement to forgo (or not exercise) its right to surplus Colorado River water. In any such agreements, the party agrees to “forbear” or refrain from exercising its right to surplus Colorado River water under the specified terms and conditions of the applicable agreement. Through such agreements, increased flexibility of Colorado River water management can be achieved – resulting in greater conservation of water than would otherwise be accomplished.

In Years in which the Secretary determines that sufficient Mainstream water is available for delivery to satisfy annual consumptive use in the Lower Division states in excess of 7.5 maf, Article II(B)(2) of the Consolidated Decree directs the Secretary to apportion such surplus Mainstream water 50% for use in California, 46% for use in Arizona, and 4% for use in Nevada. The Boulder Canyon Project Act and Articles II(B)(2) and II(B)(6) of the Consolidated Decree, taken together, authorize the Secretary to apportion surplus water and to deliver one Lower Division state’s unused apportionment for use in another Lower Division state. Pursuant to such authority and for the purpose of increasing the efficiency, flexibility, and certainty of Colorado River management and thereby helping satisfy the current and projected regional water demands, the Secretary determined that it is prudent and desirable to promulgate guidelines to establish a procedural framework for facilitating the creation and delivery of ICS within the Lower Basin.

In the absence of forbearance, surplus water is apportioned for use in the Lower Division states according to the specific percentages provided in Article II(B)(2) of the Consolidated Decree discussed above. In order to allow for management flexibility, the seven Colorado River Basin States have recommended an operational program for the creation and delivery of ICS. In furtherance of this recommendation, numerous major water users within the Lower Basin have identified their willingness, under specified circumstances, to participate in such an operational program. These parties have submitted a draft “Forbearance Agreement,” as preliminarily approved by the parties, as part of a package of documents (Appendix J) submitted for consideration by the Secretary as a necessary element to enable implementation of the operations contemplated by the Basin States Alternative. The Secretary has developed a Preferred Alternative based on this information, as well as other information submitted during the NEPA process.

The parties to the Forbearance Agreement have indicated that they intend that the Agreement provide the appropriate legal mechanism to achieve successful
implementation of this element of the Preferred Alternative. The parties have indicated that among the conditions on their forbearance, they will forbear only with respect to a specified ICS volume and only to ICS created by projects described in exhibits attached to the Forbearance Agreement or added thereto by written consent of all parties. Given the voluntary nature of the forbearance concept, it is appropriate for the parties to clearly identify the limited conditions upon which their forbearance is granted.

Through adoption and implementation of these Guidelines, the Secretary will only approve the creation, delivery and use of ICS in a manner that is fully consistent with the provisions of the Consolidated Decree, including Articles II(B)(2) and II(B)(6) therein. The Secretary will require forbearance by the State of Arizona, the Colorado River Board of California, and the Colorado River Commission of Nevada for implementation of this element of these Guidelines (regarding ICS). If, in the opinion of the Secretary, the State of Arizona or the Colorado River Board of California or the Colorado River Commission of Nevada, unreasonably withhold forbearance, the Secretary may, after consultation with the Basin States, modify these Guidelines. Moreover, the Secretary will ensure that implementation of the ICS mechanism does not infringe on the rights of any third party who is a Contractor and who is not a party to the Forbearance Agreement.


Under these Guidelines, Colorado River water will continue to be allocated for use among the Lower Division states in a manner consistent with the provisions of the Consolidated Decree. It is expected that Lower Division states and individual Contractors for Colorado River water have or will adopt arrangements that will affect utilization of Colorado River water during the Interim Period. It is expected that water orders from Colorado River Contractors will be submitted to reflect forbearance arrangements by Lower Division states and individual Contractors. The Secretary will deliver Colorado River water to Contractors in a manner consistent with these arrangements, provided that any such arrangements are consistent with the BCPA, the Consolidated Decree and do not infringe on the rights of third parties. Surplus water will only be delivered to entities with contracts for surplus water. ICS will be delivered pursuant to Section 3.C. of these Guidelines and a Delivery Agreement.

B. Delivery Agreement

Article II(B)(5) of the Consolidated Decree in Arizona v. California states that mainstream Colorado River water shall be released or delivered to water users in Arizona, California, and Nevada “only pursuant to valid contracts therefore made with such users by the Secretary of the Interior, pursuant to Section 5 of the Boulder Canyon Project Act or any other applicable federal statute.” Section 5 of the Boulder Canyon Project Act authorizes the Secretary to enter into such contracts.

Numerous Contractors in Arizona, California, and Nevada now hold contracts which entitle them to the delivery of Colorado River water under the circumstances and in the
priorities specified in the individual contracts. Contracts entered into prior to the adoption of these Guidelines do not, however, expressly address circumstances in which ICS or DSS might be created or delivered.

To ensure the requirements of Section 5 of the Boulder Canyon Project Act and Article II(B)(5) of the Consolidated Decree are complied with, and to reduce the possibility of ambiguity, the Secretary anticipates entering into delivery contracts with any person or persons intending to create ICS or DSS. Such contracts are expected to address the requirements set forth in the Guidelines for the approval of ICS or DSS plans, the certification and verification of the ICS or DSS created under the plans, the ordering and delivery of ICS or DSS, the accounting for ICS or DSS in the annual report filed with the United States Supreme Court in accordance with Article V of the Consolidated Decree, and such other matters as may bear on the delivery of the ICS or DSS, as for example the point of delivery and place of use, if not already provided for under existing contracts.

C. Mexico

[text to be inserted]

D. Intentionally Created Surplus

Findings - ICS may be created through projects that create water system efficiency or extraordinary conservation or tributary conservation or the importation of non-Colorado River System water into the Colorado River Mainstream. ICS is consistent with the concept that entities may take actions to augment storage of water in the lower Colorado River Basin. The ICS shall be delivered to the Contractor that created it pursuant to both Article II(B)(2) of the Consolidated Decree and Forbearance Agreements. Implementation of these Guidelines for ICS is conditioned upon execution of Forbearance Agreements and Delivery Agreements as further provided for in these Guidelines.

Purposes - The primary purposes of ICS are to: 1) Encourage the efficient use and management of Colorado River water; and to increase the water supply in Colorado River System reservoirs, through the creation, delivery and use of ICS; 2) Help minimize or avoid shortages to water users in the Lower Basin; 3) Benefit storage of water in both Lake Powell and Lake Mead; 4) Increase the surface elevations of both Lake Powell and Lake Mead to higher levels than would have otherwise occurred; and 5) Assure any Contractor that invests in conservation or augmentation to create ICS that no other Contractor will claim the ICS created by the Contractor pursuant to an approved plan by the Secretary.
Quantities - The maximum quantities of Extraordinary Conservation ICS that may be accumulated in all ICS Accounts, at any time, upon the effective date of these Guidelines is limited to the amounts provided in Section 3.B.5.of these Guidelines. The maximum quantities of Extraordinary Conservation ICS that may be created and/or delivered in any given Year are also limited to the amounts provided in Sections 3.B.4. and 3.C.4., respectively. As described in the Final EIS, Reclamation has analyzed ICS amounts in excess of the amounts approved by this Record of Decision and provided in these Guidelines. Any decision by the Secretary to increase the amounts in excess of the amounts provided in these Guidelines would be based on actual operating experience and would require modification of these Guidelines after consultation with the Basin States.

E. Relationship with Existing Law

These Guidelines are not intended to, and do not:

1. guarantee or assure any water user a firm supply for any specified period;

2. change or expand existing authorities under applicable federal law, except as specifically provided herein with respect to determinations under the Long Range Operating Criteria and administration of water supplies during the effective period of these Guidelines;

3. address intrastate storage or intrastate distribution of water, except as may be specifically provided by Lower Division states and individual contractors for Colorado River water who may adopt arrangements that will affect utilization of Colorado River water during the effective period of these Guidelines;

4. change the apportionments made for use within individual States, or in any way impair or impede the right of the Upper Basin to consumptively use water available to that Basin under the Colorado River Compact;

5. affect any obligation of any Upper Division state under the Colorado River Compact;

6. affect any right of any State or of the United States under Sec. 14 of the Colorado River Storage Project Act of 1956 (70 Stat. 105); Sec. 601(c) of the Colorado River Basin Project Act of 1968 (82 Stat. 885); the California Limitation Act (Act of March 4, 1929; Ch. 16, 48th Sess.); or any other provision of applicable federal law;

7. affect the rights of any holder of present perfected rights or reserved rights, which rights shall be satisfied within the apportionment of the State within which the use is made, and in the Lower Basin, in accordance with the Consolidated Decree; or

8. constitute an interpretation or application of the 1944 Treaty between the United States and Mexico Relating to the Utilization of the Waters of the Colorado and Tijuana Rivers and of the Rio Grande (1944 Treaty) or to represent current United
States policy or a determination future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions including consultation with the Basin States regarding the proposed federal action and implementation of the 1944 Treaty with Mexico through the International Boundary and Water Commission (IBWC) in consultation with the Department of State.

F. Definitions

For purposes of these Guidelines, the following definitions apply:

1. “24-Month Study” refers to the operational study that reflects the current Annual Operating Plan that is updated each month by Reclamation to project future reservoir contents and releases. The projections are updated each month using the previous month’s reservoir contents and the latest inflow and water use forecasts. In these Guidelines, the term “projected on January 1” shall mean the projection of the January 1 reservoir contents provided by the 24-Month Study that is conducted in August of the previous Year.

2. “AOP” shall mean the Annual Operating Plan for the Colorado River System Reservoirs.


5. “Certification Report” shall mean the written documentation provided by a Contractor that provides the Secretary with sufficient information to allow the Secretary to determine whether the quantity of ICS or DSS approved by the Secretary in an approved plan has been created and whether the creation was consistent with the approved plan.

6. “Colorado River System” shall have the same meaning as defined in the 1922 Colorado River Compact.

7. “Consolidated Decree” shall mean the Consolidated Decree entered by the United States Supreme Court in Arizona v. California, 547 U.S. 150 (2006).

8. “Contractor” shall mean an entity holding an entitlement to Mainstream water under (a) the Consolidated Decree, (b) a water delivery contract with the United States through the Secretary, or (c) a reservation of water by the Secretary, whether the entitlement is obtained under (a), (b) or (c) before or after the adoption of these Guidelines.

9. “DSS Account” shall mean records established by the Secretary regarding DSS.
Draft Interim Guidelines for the Operation of Lake Powell and Lake Mead

Appendix S

10. “Delivery Agreement” shall mean an agreement consistent with these Guidelines entered into between the Secretary of the Interior and one or more Contractors creating ICS.

11. “Developed Shortage Supply (“DSS”)” shall mean water available for use by a Contractor under the terms and conditions of a Delivery Agreement and Section 4 of these Guidelines in a Shortage Condition, under Article III(B)(3) of the Consolidated Decree.

12. “Direct Delivery Domestic Use” shall mean direct delivery of water to domestic end users or other municipal and industrial water providers within the contractor’s area of normal service, including incidental regulation of Colorado River water supplies within the Year of operation but not including Off-stream Banking. For the Metropolitan Water District of Southern California (MWD), Direct Delivery Domestic Use shall include delivery of water to end users within its area of normal service, incidental regulation of Colorado River water supplies within the Year of operation, and Off-stream Banking only with water delivered through the Colorado River Aqueduct.

13. “Domestic Use” shall have the same meaning as defined in the 1922 Colorado River Compact.

14. “Forbearance Agreement” shall mean an agreement under which one or more Contractors agree to forbear a right to ICS, under a water delivery contract or the Consolidated Decree.

15. “ICS Account” shall mean records established by the Secretary regarding ICS.

16. “ICS Determination” shall mean a determination by the Secretary that ICS is available for delivery.

17. “Intentionally Created Surplus (“ICS”)” shall mean surplus Colorado River System water available for use under the terms and conditions of a Delivery Agreement, a Forbearance Agreement, and these Guidelines.

   a. ICS created through extraordinary conservation, as provided for in Section 3.A.1., shall be referred to as “Extraordinary Conservation ICS.”

   b. ICS created through tributary conservation, as provided for in Section 3.A.2., shall be referred to as “Tributary Conservation ICS.”

   c. ICS created through system efficiency projects, as provided for in Section 3.A.3., shall be referred to as “System Efficiency ICS.”

   d. ICS created through the importation of non-Colorado River System Water, as provided for in Section 3.A.4., shall be referred to as “Imported ICS.”
18. “Interim Period” shall mean the effective period as described in Section 8.


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

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

22. “Off-stream Banking” shall mean the diversion of Colorado River water to underground storage facilities for use in subsequent Years from the facility used by a Contractor diverting such water.

23. “ROD” shall mean the Record of Decision issued by the Secretary for the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

24. “Upper Division states” shall mean the Colorado River Basin States of Colorado, New Mexico, Utah, and Wyoming.

25. “Water Year” shall mean October 1 through September 30.

26. “Year” shall mean calendar year.

G. Interim Guidelines for the Operation of Lake Powell and Lake Mead

These Guidelines shall include Sections III.A., B., E., and F. above and this Section III.G. These Guidelines which shall implement and be used for determinations made pursuant to the Long Range Operating Criteria during the effective period identified in Section 8, are hereby adopted:
Section 1. Allocation of Unused Basic Apportionment Water Under Article II(B)(6)

A. Introduction

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

B. Application to Unused Basic Apportionment

Before making a determination of a Surplus Condition under these Guidelines, the Secretary will determine the quantity of apportioned but unused water excluding ICS created in that Year from the basic apportionments under Article II(B)(6), and will allocate such water in the following order of priority:

1. Meet the Direct Delivery Domestic Use requirements of MWD and Southern Nevada Water Authority (SNWA), allocated as agreed by said agencies;

2. Meet the needs for Off-stream Banking activities for use in California by MWD and for use in Nevada by SNWA, allocated as agreed by said agencies; and

3. Meet the other needs for water in California in accordance with the California Seven-Party Agreement as supplemented by the Quantification Settlement Agreement.
Section 2. Determination of Lake Mead Operation During the Interim Period

A. Normal Conditions

1. Lake Mead above elevation 1075 feet and below elevation 1145 feet

In Years when Lake Mead elevation is projected to be above 1075 feet and below elevation 1145 feet on January 1, the Secretary shall determine either a Normal Condition, or, under Section 2.B.5., an ICS Surplus Condition.

B. Surplus Conditions

1. Partial Domestic Surplus

[Adopted January 16, 2001; Deleted [insert Month Day, Year]]

2. Domestic Surplus

(Lake Mead at or above Elevation 1145 feet and below the Elevation that Triggers a Quantified Surplus (70R Strategy))

In years when Lake Mead content is projected to be at or above elevation 1145 feet, but less than the amount which would initiate a Surplus under Section 2.B.3., Quantified Surplus, or Section 2.B.4., Flood Control Surplus, on January 1, the Secretary shall determine a Domestic Surplus Condition. The amount of such Surplus shall equal –

a. From the effective date of these Guidelines through December 31, 2015 (through preparation of the 2016 AOP):

1) For Direct Delivery Domestic Use by MWD, 1.250 maf reduced by the amount of basic apportionment available to MWD.

2) For use by SNWA, the Direct Delivery Domestic Use within the SNWA service area in excess of the State of Nevada’s basic apportionment.

3) For use in Arizona, the Direct Delivery Domestic Use in excess of Arizona’s basic apportionment.

b. From January 1, 2016 (for preparation of the 2017 AOP) through December 31, 2025 (through preparation of the 2026 AOP):

1) For use by MWD, 250,000 af per Year in addition to the amount of California’s basic apportionment available to MWD.
2) For use by SNWA, 100,000 af per Year in addition to the amount of Nevada’s basic apportionment available to SNWA.

3) For use in Arizona, 100,000 af per Year in addition to the amount of Arizona’s basic apportionment available to Arizona contractors.

3. Quantified Surplus (70R Strategy)¹

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

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

b. Allocate and distribute the Quantified Surplus 50 percent to California, 46 percent to Arizona, and 4 percent to Nevada, subject to c. through e. that follow.

c. Distribute California’s share first to meet basic apportionment demands and MWD’s demands, and then to California Priorities 6 and 7 and other surplus contracts. Distribute Nevada’s share first to meet basic apportionment demands and then to the remaining demands. Distribute Arizona’s share to surplus demands in Arizona including Off-stream Banking and interstate banking demands. Nevada shall receive first priority for interstate banking in Arizona.

d. Distribute any unused share of the Quantified Surplus in accordance with Section 1.

e. Determine whether MWD, SNWA and Arizona have received the amount of water they would have received under Section 2.B.2., if a Quantified Surplus Condition had not been determined. If they have not, then determine and meet all demands provided for in Section 2.B.2.

4. Flood Control Surplus

In years in which the Secretary makes space-building or flood control releases² pursuant to the 1984 Field Working Agreement between Reclamation and the Army Corps of Engineers, surplus waters pursuant to the 1944 Treaty are made available to Mexico (when Mexico may schedule up to an additional 0.2 maf) when flood control releases are made. These Guidelines are not intended to identify, or change in any manner that practice. Any issues relating to the implementation of the Treaty, including

¹70R is a spill avoidance strategy that determines a surplus if the January 1 projected system storage space is less than the space required by the flood control criteria, assuming a natural inflow of 17.4 maf (the 70th percentile non-exceedence flow). See ISG Final EIS at Section 2.3.1.2.

² Under current practice, surplus waters pursuant to the 1944 Treaty are made available to Mexico (when Mexico may schedule up to an additional 0.2 maf) when flood control releases are made. These Guidelines are not intended to identify, or change in any manner that practice. Any issues relating to the implementation of the Treaty, including
Engineers (as may be amended), the Secretary shall determine a Flood Control Surplus for the remainder of that Year or the subsequent Year. In such years, releases will be made to satisfy all beneficial uses within the United States, including unlimited Off-stream Banking.

5. ICS Surplus

a. In Years in which Lake Mead’s elevation is projected to be above elevation 1075 feet on January 1, a Flood Control Surplus has not been determined, and delivery of ICS has been requested, the Secretary may determine an ICS Surplus Condition in lieu of other operating conditions that are based solely on the elevation of Lake Mead.

b. In Years in which a Quantified Surplus or a Domestic Surplus is available to a Contractor, the Secretary shall first deliver the Quantified Surplus or Domestic Surplus before delivering any requested ICS to that Contractor. If available Quantified Surplus or Domestic Surplus is insufficient to meet a Contractor’s demands, the Secretary shall deliver ICS available in that Contractor’s ICS Account at the request of the Contractor, subject to the provisions of Section 3.C.

C. Allocation of Colorado River Water and Forbearance and Reparation Arrangements

[Content of 2001 ISG Section 2.C., Allocation of Colorado River Water and Forbearance and Reparation Arrangements, is now found at III.A., as modified]

D. Shortage Conditions

1. Deliveries to the Lower Division States during Shortage Condition Years shall be implemented in the following manner:

a. In Years when Lake Mead content is projected to be at or below elevation 1075 feet and at or above 1050 feet on January 1, a quantity of 7.167 maf shall be apportioned for consumptive use in the Lower Division States of which 2.48 maf shall be apportioned for use in Arizona and 287,000 af shall be apportioned for use in Nevada in accordance with the Arizona-Nevada Shortage Sharing any potential changes in approach relating to surplus declarations under the 1944 Treaty, must be addressed in a bilateral fashion with the Republic of Mexico.
Agreement dated February 9, 2007, and 4.4 maf shall be apportioned for use in California.

b. In Years when Lake Mead content is projected to be below elevation 1050 feet and at or above 1025 feet on January 1, a quantity of 7.083 maf shall be apportioned for consumptive use in the Lower Division States of which 2.4 maf shall be apportioned for use in Arizona and 283,000 af shall be apportioned for use in Nevada in accordance with the Arizona-Nevada Shortage Sharing Agreement dated February 9, 2007, and 4.4 maf shall be apportioned for use in California.

c. In Years when Lake Mead content is projected to be below elevation 1025 feet on January 1, a quantity of 7.0 maf shall be apportioned for consumptive use in the Lower Division States of which 2.32 maf shall be apportioned for use in Arizona and 280,000 af shall be apportioned for use in Nevada in accordance with the Arizona-Nevada Shortage Sharing Agreement dated February 9, 2007, and 4.4 maf shall be apportioned for use in California.

2. During a Year when the Secretary has determined a Shortage Condition, the Secretary shall deliver Developed Shortage Supply available in a Contractor’s DSS Account at the request of the Contractor, subject to the provisions of Section 4.C.
Section 3. Implementation of Intentionally Created Surplus

[Content of 2001 ISG Section 3., Implementation of Guidelines, is now found at Section 7., as modified herein.]

A. Categories of ICS

1. Extraordinary Conservation ICS

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

   a. Fallowing of land that currently is, historically was, and otherwise would have been irrigated in the next Year.

   b. Canal lining programs.

   c. Desalination programs in which the desalinated water is used in lieu of Mainstream water.


   e. Extraordinary Conservation ICS demonstration programs pursuant to a letter agreement entered into between the United States Bureau of Reclamation and the Contractor prior to the effective date of these Guidelines.

   f. Tributary Conservation ICS created under Section 3.A.2. and not delivered in the Year created.

   g. Imported ICS created under Section 3.A.4. and not delivered in the Year created.

   h. Other extraordinary conservation measures, including but not limited to, development and acquisition of a non-Colorado River System water supply used in lieu of Colorado River Mainstream water within the same state, in consultation with the Basin States.

2. Tributary Conservation ICS

A Contractor may create Tributary Conservation ICS by purchasing documented water rights on Colorado River System tributaries within the Contractor’s state if there is documentation that the water rights have been used for a significant period of Years and that the water rights were perfected prior to June 25, 1929 (the effective date of the Boulder Canyon Project Act). The actual amount of any Tributary Conservation ICS introduced to the Mainstream shall be subject to verification by the Secretary as provided in Section 3.D. Any Tributary Conservation ICS not delivered pursuant to Section 3.C. or deducted pursuant to Section 3.B.2. in the Year it was created will, at the beginning of the
following Year, be converted to Extraordinary Conservation ICS and will thereafter be subject to all provisions applicable to Extraordinary Conservation ICS. Tributary Conservation ICS may be delivered for Domestic Use only.

3. System Efficiency ICS

A Contractor may make contributions of capital\(^3\) to the Secretary for use in projects designed to realize system efficiencies that save water that would otherwise be lost from the Colorado River Mainstream in the United States. An amount of water equal to a portion of the water conserved would be made available to contributing Contractor(s) by the Secretary as System Efficiency ICS. System efficiency projects are intended only to provide temporary water supplies. System Efficiency ICS will be delivered to the contributing Contractor(s) on a schedule of annual deliveries as provided in an exhibit to a Forbearance Agreement and Delivery Agreement. The Secretary may identify potential system efficiency projects, terms for capital participation in such projects, and types and amounts of benefits the Secretary could provide in consideration of non-federal capital contributions to system efficiency projects, including identification of a portion of the water saved by such projects.

4. Imported ICS

A Contractor may create Imported ICS by introducing non-Colorado River System water in that Contractor’s state into the Colorado River Mainstream. Contractors proposing to create Imported ICS shall make arrangements with the Secretary, contractual or otherwise, to ensure no interference with the Secretary’s management of Colorado River System reservoirs and regulatory structures. Any arrangement shall provide that the Contractor must obtain appropriate permits or other authorizations required by state and federal law. The actual amount of any Imported ICS introduced to the Mainstream shall be subject to verification by the Secretary as provided in Section 3.D. Any Imported ICS not delivered pursuant to Section 3.C. or deducted pursuant to Section 3.B.2. in the Year it was created will be converted, at the beginning of the following Year, to Extraordinary Conservation ICS and thereafter will be subject to all provisions applicable to Extraordinary Conservation ICS.

B. Creation of ICS

A Contractor may only create ICS in accordance with the following conditions:

1. A Contractor shall submit a plan for the creation of ICS to the Secretary demonstrating how all requirements of these Guidelines will be met in the Contractor’s creation of ICS. Until such plan is reviewed and approved by the Secretary, Contractors proposing to create ICS shall make arrangements with the Secretary, contractual or otherwise, to ensure no interference with the Secretary’s management of Colorado River System reservoirs and regulatory structures. Any arrangement shall provide that the Contractor must obtain appropriate permits or other authorizations required by state and federal law. The actual amount of any Imported ICS introduced to the Mainstream shall be subject to verification by the Secretary as provided in Section 3.D. Any Imported ICS not delivered pursuant to Section 3.C. or deducted pursuant to Section 3.B.2. in the Year it was created will be converted, at the beginning of the following Year, to Extraordinary Conservation ICS and thereafter will be subject to all provisions applicable to Extraordinary Conservation ICS.

\(^3\) To the extent permitted by federal law, monies to pay construction, operation, maintenance, repair, and/or replacement costs.
Secretary, subject to such environmental compliance as may be required, such plan or any ICS purportedly created through it shall not be a basis for creation of ICS. An ICS plan will consist of at a minimum the following information:

a. Project description, including what extraordinary measures will be taken to conserve or import water;

b. Term of the activity;

c. Estimate of the amount of water that will be conserved or imported;

d. Proposed methodology for verification of the amount of water conserved or imported; and

e. Documentation regarding any state or federal permits or other regulatory approvals that have already been obtained by the Contractor or that need to be obtained prior to creation of ICS.

A Contractor may modify its approved plan for creation of ICS during any Year, subject to approval by the Secretary. A Contractor with an approved multi-Year plan for System Efficiency ICS is not required to seek further approval by the Secretary in subsequent Years unless the Contractor seeks to modify the plan.

2. There shall be a one-time deduction of five percent (5%) from the amount of ICS in the Year of its creation. This system assessment shall result in additional system water in storage in Lake Mead. This one-time system assessment shall not apply to:

a. System Efficiency ICS created pursuant to Section 3.B. because a large portion of the water conserved by this type of project will increase the quantity of system water in storage over time.

b. Extraordinary Conservation ICS created by conversion of Tributary Conservation ICS that was not delivered in the Year created, pursuant to Section 3.B. because 5% of the ICS is deducted at the time the Tributary Conservation ICS is created.

c. Extraordinary Conservation ICS created by conversion of Imported ICS that was not delivered in the Year created, pursuant to Section 3.B. because 5% of the ICS is deducted at the time the Imported ICS is created.

d. ICS created under demonstration programs in 2006 and 2007 which has already been assessed the 5% system assessment.

3. Except as provided in Sections 3.A.2. and 3.A.4., Extraordinary Conservation ICS can only be created if such water would have otherwise been beneficially used.
4. The maximum total amount of Extraordinary Conservation ICS that can be created during any Year is limited to the following:
   a. 400,000 af for California Contractors;
   b. 125,000 af for Nevada Contractors; and
   c. 100,000 af for Arizona Contractors.

5. The maximum quantity of Extraordinary Conservation ICS that may be accumulated in all ICS Accounts, at any time, is limited to the following:
   a. 1.5 maf for California Contractors;
   b. 300,000 af for Nevada Contractors; and
   c. 300,000 af for Arizona Contractors.

6. Except as provided in Sections 3.A.2. and 3.A.4., no category of surplus water can be used to create Extraordinary Conservation ICS.

7. The quantity of Extraordinary Conservation ICS remaining in an ICS Account at the end of each Year shall be diminished by annual evaporation losses of 3%. Losses shall be applied annually to the end-of-the-Year balance of Extraordinary Conservation ICS beginning in the Year after the ICS is created and continuing until no Extraordinary Conservation ICS remains in Lake Mead. No evaporation losses shall be assessed during a Year in which the Secretary has determined a Shortage Condition.

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

9. A Contractor must notify Reclamation by [insert Month Day] of the amount of ICS it wishes to create for the subsequent Year pursuant to an existing, approved plan. A Contractor may request mid-Year modification(s) to reduce the amount of ICS created during that Year, subject to the requirements of this Section 3.B. A Contractor cannot increase the amount of ICS it had previously scheduled to create during the Year.

C. Delivery of ICS

The Secretary shall deliver ICS in accordance with the following conditions:
1. The delivery shall be consistent with the terms of a Delivery Agreement with a Contractor regarding ICS.

2. The Secretary has determined an ICS Surplus Condition.

3. The existence of Forbearance Agreements necessary to bring the delivery of the ICS into compliance with Articles II(B)(2) and II(B)(6) of the Consolidated Decree.

4. A limitation on the total amount of Extraordinary Conservation ICS that may be delivered in any Year is as follows:
   a. 400,000 af for California Contractors;
   b. 300,000 af for Nevada Contractors; and
   c. 300,000 af for Arizona Contractors.

5. If the May 24-month study for that Year indicates that a Shortage Condition would be determined in the succeeding Year if the requested amounts for the current Year under Section 3.C. were delivered, the Secretary may deliver less than the amounts of ICS requested to be delivered.

6. If the Secretary releases Flood Control Surplus water, Extraordinary Conservation ICS accumulated in ICS Accounts shall be reduced by the amount of the Flood Control Surplus on an acre-foot for acre-foot basis until no Extraordinary Conservation ICS remains. The reductions to the ICS Accounts shall be shared on a pro-rata basis among all Contractors that have accumulated Extraordinary Conservation ICS.

7. If a Contractor has an overrun payback obligation, as described in the October 10, 2003 Inadvertent Overrun and Payback Policy or Exhibit C to the October 10, 2003 Colorado River Water Delivery Agreement, the Contractor must pay the overrun payback obligation in full before requesting or receiving delivery of ICS. The Contractor’s ICS account shall be reduced by the amount of the overrun payback obligation in order to pay the overrun payback obligation.

8. If more ICS is delivered to a Contractor than is actually available for delivery to the Contractor in that Year, then the excess ICS delivered shall be treated as an inadvertent overrun until it is fully repaid.

9. A Contractor may request mid-Year modification(s) to increase or reduce the amount of ICS to be delivered during that Year because of changed conditions, emergency, or hardship, subject to the requirements of this Section 3.C.
10. The Contractor shall agree in the Delivery Agreement that the records of the Contractor relating to the creation of ICS shall be open to inspection by the Secretary and by any Contractor or Basin State.

D. Accounting for ICS

The Secretary shall develop procedures to account for and verify, on an annual basis, ICS creation and delivery. At a minimum such procedures shall include the following:

1. A Contractor shall submit for the Secretary’s review and verification, appropriate information, as determined by the Secretary, contained in a Certification Report, to demonstrate the amount of ICS created and that the method of creation was consistent with the Contractor’s approved ICS plan, a Forbearance Agreement, and a Delivery Agreement. Such information shall be submitted by [insert Month Date] of the Year following the creation of the ICS.

2. The Secretary, acting through the Lower Colorado Regional Director, shall verify the information submitted pursuant to this section, and provide a final written decision to the Contractor regarding the amount of ICS created. The results of such final written decisions shall be made available to the public through publication pursuant to Section 3.D.3. and other appropriate means. A contractor and any party to an applicable Forbearance Agreement may appeal the Regional Director’s verification decision to the Secretary and through judicial processes.

3. Each Year the Decree Accounting Report will be supplemented to include ICS Account balance information for each Contractor and shall address ICS creation, deliveries, amounts no longer available for delivery due to releases for flood control purposes, deductions pursuant to Section 3.B.2., deductions due to annual evaporation losses pursuant to Section 3.B.7., any amounts of ICS converted to Extraordinary Conservation ICS, and ICS remaining available for delivery.
Section 4. Implementation of Developed Shortage Supply

[Content of 2001 ISG Section 4., Effective Period & Termination, is now found at Section 8., as modified herein.]

A. Categories of DSS

1. Tributary Conservation DSS

A Contractor may create Tributary Conservation DSS by purchasing documented water rights on Colorado River System tributaries within the Contractor’s state if there is documentation that the water rights have been used for a significant period of years and that the water rights were perfected prior to June 25, 1929 (the effective date of the Boulder Canyon Project Act). The actual amount of any Tributary Conservation DSS introduced to the Mainstream shall be subject to verification by the Secretary as provided in Section 4.D. Tributary Conservation DSS may be delivered for Domestic Use only.

2. Imported DSS

A Contractor may create Imported DSS by introducing non-Colorado River System water in that Contractor’s state into the Colorado River Mainstream, making sufficient arrangements with the Secretary, contractual or otherwise, to ensure no interference with the Secretary’s management of Colorado River System reservoirs and regulatory structures. Any arrangement shall provide that the Contractor must obtain appropriate permits or other authorizations required by state and federal law. The actual amount of any Imported DSS introduced to the Mainstream shall be subject to verification by the Secretary as provided in Section 4.D.

B. Creation of DSS

A Contractor may only create DSS in accordance with the following conditions:

1. A Contractor shall submit a plan for the creation of DSS to the Secretary demonstrating how all requirements of these Guidelines will be met in the Contractor’s creation of DSS. Until such plan is reviewed and approved by the Secretary, subject to such environmental compliance as may be required, such plan, or any DSS purportedly created through it, shall not be a basis for creation of DSS. A DSS plan will consist of at a minimum the following information:

   a. Project description, including what extraordinary measures will be taken to conserve or import water;

   b. Term of the activity;

   c. Estimate of the amount of water that will be conserved or imported;
d. Proposed methodology for verification of the amount of water conserved or imported; and

e. Documentation regarding any state or federal permits or other regulatory approvals that have already been obtained by the Contractor or that need to be obtained prior to creation of DSS.

A Contractor may modify its approved plan for creation of DSS during any Year, subject to approval by the Secretary.

2. There shall be a one-time deduction of five percent (5%) from the amount of DSS in the Year of its creation. This system assessment shall result in additional system water in storage in Lake Mead.

3. DSS may only be created during a Year when the Secretary has determined a Shortage Condition.

4. DSS may only be created by a project that is approved by the Secretary for creation prior to the Secretary determining a Shortage Condition.

5. A Contractor must notify Reclamation by [insert Month Day] of the amount of DSS it wishes to create for the subsequent Year pursuant to an existing, approved plan. A Contractor may request mid-Year modification(s) to reduce the amount of DSS created during that Year, subject to the requirements of this Section 4.B. A Contractor cannot increase the amount of DSS it had previously scheduled to create during the Year.

C. Delivery of DSS

The Secretary shall deliver DSS in accordance with the following conditions:

1. The delivery shall be consistent with the terms of a Delivery Agreement with a Contractor regarding DSS.

2. The Secretary has determined a Shortage Condition.

3. Delivery of DSS shall not cause the total deliveries within the Lower Division states to reach or exceed 7.5 maf in any Year.

4. Delivery of DSS shall be in accordance with Article II(B)(3) of the Consolidated Decree.

5. If a Contractor has an overrun payback obligation, as described in the October 10, 2003 Inadvertent Overrun and Payback Policy or Exhibit C to the October 10, 2003 Colorado River Water Delivery Agreement, the Contractor must pay the overrun payback obligation in full before requesting or receiving delivery of DSS. The
Contractor’s DSS Account shall be reduced by the amount of the overrun payback obligation in order to pay the overrun payback obligation.

6. If more DSS is delivered to a Contractor than is actually available for delivery to the Contractor in that Year, then the excess DSS delivered shall be treated as an inadvertent overrun until it is fully repaid.

7. A Contractor may request mid-Year modification(s) to increase or reduce the amount of DSS to be delivered during that Year because of changed conditions, emergency, or hardship, subject to the requirements of this Section 4.C.

8. The Contractor shall agree in the Delivery Agreement that the records of the Contractor relating to the creation of DSS shall be open to inspection by the Secretary or by any Contractor or Basin State.

9. DSS may only be delivered in the Year of its creation. Any DSS not delivered pursuant to this Section 4.C. in the Year it is created may not be converted to Extraordinary Conservation ICS.

D. Accounting for DSS

The Secretary shall develop procedures to account for and verify, on an annual basis, DSS creation and delivery. At a minimum such procedures shall include the following:

1. A Contractor shall submit for the Secretary’s review and verification appropriate information, as determined by the Secretary, contained in a Certification Report, to demonstrate the amount of DSS created and that the method of creation was consistent with the Contractor’s approved DSS plan and a Delivery Agreement. Such information shall be submitted by [insert Month Date] of the Year following the creation of the DSS.

2. The Secretary, acting through the Lower Colorado Regional Director, shall verify the information submitted pursuant to this section, and provide a final written decision to the Contractor regarding the amount of DSS created. The results of such final written decisions shall be made available to the public through publication pursuant to Section 4.D.3. and other appropriate means. The Contractor may appeal the Regional Director’s verification decision to the Secretary and through judicial processes.

3. Each Year the Decree Accounting Report will be supplemented to include DSS information for each Contractor and shall address DSS creation, deliveries, and deductions pursuant to Section 4.B.2 and 4.B.3.
Section 5. California’s Colorado River Water Use Plan Implementation Progress

A. Introduction

[Adopted January 16, 2001; Deleted [insert Month Day, Year]]

B. California’s Quantification Settlement Agreement

[Adopted January 16, 2001; Deleted [insert Month Day, Year]]

C. California’s Colorado River Water Use Reductions

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

<table>
<thead>
<tr>
<th>Benchmark Date (Calendar Year)</th>
<th>Benchmark Quantity (California Agricultural usage &amp; 14,500 AF of PPR Use in MAF)</th>
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</tr>
<tr>
<td>2006</td>
<td>3.64³</td>
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<tr>
<td>2009</td>
<td>3.60⁵</td>
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<td>2012</td>
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</tbody>
</table>

In the event that California has not reduced its use in accordance with the limits set forth above in any year in which the Benchmark Quantity applies, the surplus determination under Section 2.B.2. of these Guidelines will be suspended and will instead be based upon the 70R Strategy, for up to the remainder of the term of these Guidelines. If however, California meets the missed Benchmark Quantity before the next Benchmark Date or the 2012 Benchmark Quantity after 2012, the surplus determination under Section 2.B.2. shall be reinstated as the basis for the surplus determination under the AOP for the next following Year(s).

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

⁴ The Benchmark Quantities in 2003 and 2006 were met.

⁵ The 2009 Benchmark Quantity is modified from 3.53 maf due to construction delays that have been experienced for the All-American Canal Lining Project.
Section 6.  Coordinated Operation of Lakes Powell and Mead During the Interim Period

[Content of 2001 ISG Section 6., Authority, is now found at Section 9., as modified herein.]

During the Interim Period, the Secretary shall coordinate the operations of Lake Powell and Lake Mead according to the strategy set forth in this Section 6.

The objective of the operation of Lakes Powell and Mead as described herein is to avoid curtailment of uses in the Upper Basin, minimize shortages in the Lower Basin and not adversely affect the yield for development available in the Upper Basin.

The August 24-month study projections for the January 1 system storage and reservoir water surface elevations, for the following Water Year, shall be used to determine the applicability of the coordinated operation of Lakes Powell and Mead. Equalization or balancing of storage in Lakes Powell and Mead shall be achieved by the end of each Water Year.

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

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

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

1. Equalization: In Water Years when Lake Powell content is projected on January 1 to be at or above the elevation stated in the Lake Powell Equalization Elevation Table, an amount of water will be released from Lake Powell to Lake Mead at a rate greater than 8.23 maf per Water Year to the extent necessary to avoid spills, or equalize storage in the two reservoirs, or otherwise to release 8.23 maf from Lake Powell.

2. Upper Elevation Balancing: In Water Years when Lake Powell content is projected on January 1 to be below the elevation stated in the Lake Powell Equalization Elevation Table and at or above 3575 feet, the Secretary shall release 8.23 maf from Lake Powell if the projected elevation of Lake Mead is at or above 1075 feet. If the projected elevation of Lake Mead is below 1075 feet, the Secretary shall balance the contents of Lake Mead and Lake Powell, but shall release no more than 9.0 maf and no less than 7.0 maf from Lake Powell.

3. Mid-Elevation Releases: In Water Years when Lake Powell content is projected on January 1 to be below 3575 feet and at or above 3525 feet, the Secretary shall release
7.48 maf from Lake Powell if the projected elevation of Lake Mead is at or above 1025 feet. If the projected elevation of Lake Mead is below 1025 feet, the Secretary shall release 8.23 maf from Lake Powell.

4. Lower Elevation Balancing: In Water Years when Lake Powell content is projected on January 1 to be below 3525 feet, the Secretary shall balance the contents of Lake Mead and Lake Powell, but shall release no more than 9.5 maf and no less than 7.0 maf from Lake Powell.

5. When determining lake elevations and contents under this Section 6, no adjustment shall be made for ICS.

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

Releases from Lake Powell for coordinated operations will be consistent with the parameters of the Record of Decision for the Glen Canyon Dam Final Environmental Impact Statement and the Glen Canyon Dam Operating Criteria (62 Federal Register 9447, Mar. 3, 1997).
Section 7. Implementation of Guidelines

[Content of 2001 ISG Section 7, Modeling and Data Authority, is now found at Section 7.A., as modified herein.]

A. AOP Process.

[text may be inserted]

B. Consultation

The Secretary shall consult on the implementation of these Guidelines in circumstances including but not limited to the following:

1. The Secretary shall first consult with all the Basin States before making any substantive modification to these Guidelines.

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

3. In the event projections included in any monthly 24-Month Study indicates Lake Mead elevations may approach an elevation that would trigger shortages in deliveries of water from Lake Mead in the United States, the Secretary shall consult with the Basin States on whether and how the United States may reduce the quantity of water allotted to Mexico.6

4. Whenever Lake Mead is below elevation 1025 feet, the Secretary shall consult with the Basin States annually to consider whether Colorado River hydrologic conditions, together with the anticipated delivery of water to the Lower Division states and Mexico, is likely to cause the elevation of Lake Mead to fall below 1000 feet. Upon such a consideration, the Secretary shall consult with the Basin States to discuss further measures that may be undertaken. The Secretary shall implement any additional measures consistent with applicable federal law.

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6 These Guidelines are not intended to constitute an interpretation or application of the 1944 Treaty or to represent current United States policy or a determination of future United States policy regarding deliveries to Mexico. The United States will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Treaty with Mexico through the IBWC in consultation with the Department of State.
5. During the Interim Period the Secretary shall consult with the Basin States regarding the administration of ICS.

6. During the Interim Period the Secretary shall consult with the Basin States regarding the creation of ICS through other extraordinary conservation measures pursuant to Section 3.A.1.h.

7. During the Interim Period the Secretary shall consult with the Basin States regarding the creation of System Efficiency ICS pursuant to Section 3.A.3.

8. The Secretary shall consult with the Basin States to evaluate actions at critical elevations that may avoid shortage determinations as reservoir elevations approach critical thresholds.

C. Mid-Year Review

[text may be inserted]

D. Operations During Interim Period

[text may be inserted]

Beginning no later than December 31, 2020, the Secretary shall initiate a formal review for purposes of evaluating the effectiveness of these Guidelines. The Secretary shall consult with the Basin States in initiating this review.
Section 8. Interim Period and Termination

[Adopted January 16, 2001; Deleted and Modified [insert Month Day, Year]]

A. Interim Period

These Guidelines will be effective upon the date of execution of the ROD for Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead and will, unless subsequently modified, remain in effect through December 31, 2025 (through preparation of the 2026 AOP).

B. Effective Period - Special Provisions

1. The provisions for the delivery and accounting of ICS in Section 3 shall remain in effect through December 31, 2036, unless subsequently modified, for any ICS remaining in an ICS Account on December 31, 2026.

2. The provisions for the creation and delivery of Tributary Conservation ICS and Imported ICS in Section 3 shall continue in full force and effect until fifty years from the date of the execution of the ROD.

3. The provisions for the creation and delivery of DSS in Section 4 shall continue in full force and effect until fifty years from the date of the execution of the ROD.

C. Termination of Guidelines

Except as provided in Section 8.B., these Guidelines shall terminate on December 31, 2025 (through preparation of the 2026 AOP). At the conclusion of the effective period of these Guidelines, the operating criteria for Lake Powell and Lake Mead are assumed to revert to the operating criteria used to model baseline conditions in the Final Environmental Impact Statement for the Interim Surplus Guidelines dated December 2000 (i.e., modeling assumptions are based upon a 70R Strategy for the period commencing January 1, 2026 (for preparation of the 2027 AOP)).

[text may be inserted]
Section 9. Authority and Disclaimer

These Guidelines are issued pursuant to the authority vested in the Secretary by federal law, including the Boulder Canyon Project Act of 1928 (28 Stat. 1057), the Colorado River Storage Project Act (70 Stat. 105), and the Consolidated Decree issued by the U.S. Supreme Court in Arizona v. California, 547 U.S. 150 (2006) and shall be used to implement Articles II and III of the Criteria for the Coordinated Long Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (Pub. L. No. 90-537), as amended.

[text may be inserted]
CAP Drought Impact Analysis

June 2007

DRAFT
Introduction

The Colorado River provides more than one-third of all water used in Arizona. More than half of the State’s Colorado River water is delivered to central Arizona through the Central Arizona Project. The CAP provides more than half of the annual water supply and approximately 75% of the renewable water supply to the more than 4 million residents of Maricopa, Pinal, and Pima Counties. The CAP also provides irrigation water for more than 300,000 acres of farmland in central Arizona.

Over the past seven years the Colorado River basin has experienced its worst drought since recordkeeping began in 1906. This has led to much speculation as to whether and when Arizona might experience a shortage of Colorado River water and how such a shortage might impact Arizona water users. Shortage is of particular concern to Arizona because of the CAP’s junior priority on the River. (The 1968 federal law that authorized the CAP gave priority to California water users.)

To date, there has never been a shortage declared in the Lower Basin (Arizona, California and Nevada). In light of the extended drought, however, the Secretary of the Interior—who serves as the water master for the Lower Colorado River—announced her intention in 2005 to develop shortage guidelines for the Lower Basin.

Over the past two years, the seven Basin States worked diligently to reach consensus, and on April 30, 2007, they submitted their proposal to the Secretary. The Basin States Proposal includes guidelines for the coordinated operation of Lake Powell and Lake Mead and shortage guidelines for the Lower Basin based on certain trigger elevations in Lake Mead: When the end-of-year elevation in Lake Mead was projected to be below 1075 feet above sea level but above 1050, deliveries to the Lower Basin States would be reduced by 333,000 acre-feet; between 1050 and 1025, the shortage would be 417,000 acre-feet; and below elevation 1025 the shortage would be 500,000 acre-feet. If Lake Mead were projected to decline below elevation 1000, then the Secretary would consult with the Basin States about further reductions.

The Secretary intends to adopt guidelines for management and operation of the Colorado River by the end of 2007. Those guidelines would control releases from Lake Powell and Lake Mead, including during times of shortage, for an interim period through 2026.

This paper evaluates the likelihood of a shortage to Arizona’s Colorado River supplies through 2026, assuming implementation of the Basin States Proposal and the shortage guidelines contained therein. It then examines the impact of such shortages on water users in Arizona.

I. Likelihood of Shortage

The probability of a shortage in the Lower Basin depends primarily on hydrology—i.e., the amount of runoff generated by rain and snowfall in the Colorado River watershed each year—and, to a lesser degree, on Colorado River water use in the Upper Basin.
To evaluate the likelihood of a shortage to Arizona during the interim period, CAP looked at the gaged flow record for the Colorado River since 1906. We then compared the average flows for every 18-year period—the duration of the interim period that will be governed by the guidelines the Secretary of the Interior will adopt later this year—and selected three case studies. For ease of reference, we have labeled these three scenarios as Average, Bad and Worst.

A. “Average” Conditions

The “Average” scenario replicates the natural flow of the Colorado River during the period 1936 through 1953—that is, it assumes that the flow of the River in 2008 is the same as it was in 1936, and that for each successive year the flow matches the respective historical year. The average natural flow for this 18-year period was 14.778 million acre-feet (maf). By comparison, the long-term average natural flow of the Colorado River in the gaged historical record (1906-2004) is 15.024 maf, and recent tree-ring studies suggest that the average over the past 500 years is around 14.5 to 14.7 maf.

As Figure 1 shows, this scenario would not be expected to require a shortage in the Lower Basin during the interim period.

![Figure 1](image)

B. “Bad” Conditions

The “Bad” scenario uses the natural flow of the Colorado River during the period 1962 through 1979. The average natural flow for this 18-year period was 13.873 maf, or 92 percent of the historical average. This scenario represents the 25th percentile, meaning
that the 18-year average natural flow since 1906 was greater than 13.873 maf 75 percent of the time.

Figure 2 shows that under this scenario the Lower Basin States would experience shortages in 11 of the 18 years, although none would require a reduction of more than 333,000 acre-feet. (The projected elevation of Lake Mead at the end of 2024 is 1050.49, thus narrowly avoiding the second level shortage trigger in that year.)

**Figure 2**

"Bad"

C. **“Worst” Conditions**

The “Worst” scenario mimics the natural flow of the Colorado River from 1953 through 1970. This is the driest 18-year period in the gaged record, with an average natural flow of only 12.926 maf—about 2 maf per year below the long-term average. Thus, our “Worst” case assumes that the 7 years of drought experienced in the Colorado River Basin since 2000 are followed by the worst prolonged drought in the historical record. The resulting 25-year drought would be comparable to the type of extended drought that some tree-ring studies suggest occurred in the past.

Not surprisingly, under this “Worst” case scenario the Lower Basin would experience shortages virtually throughout the interim period. Moreover, as shown in Figure 3, Lake Mead would be expected to fall below elevation 1000 for half of the 18-year period, necessitating further consultation with the Secretary. (At present, if Lake Mead were below elevation 1000, the Southern Nevada Water Authority would not be able to divert water for the Las Vegas area, as the water level in Lake Mead would be below SNWA’s lowest intakes. However, Nevada is already working on extending its intakes to below 900 feet asl.)
To prevent Lake Mead from dropping below 1000 feet, the Lower Basin would have to take shortages greater than those described in the Basin States Proposal. Table 1 shows the amount of additional Lower Basin shortage that would be required.

**Table 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Mead Elevation (end of year)</th>
<th>Additional Shortage Required to Protect Elevation 1000 (af)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1097.53</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>1079.52</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>1047.56</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>1012.16</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>1027.25</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>1031.64</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>1030.37</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>1008.53</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>999.74</td>
<td>14,233</td>
</tr>
<tr>
<td>2017</td>
<td>984.10</td>
<td>834,622</td>
</tr>
<tr>
<td>2018</td>
<td>986.91</td>
<td>692,216</td>
</tr>
<tr>
<td>2019</td>
<td>969.95</td>
<td>1,520,750</td>
</tr>
<tr>
<td>2020</td>
<td>996.73</td>
<td>216,881</td>
</tr>
<tr>
<td>2021</td>
<td>1007.12</td>
<td>0</td>
</tr>
<tr>
<td>2022</td>
<td>999.70</td>
<td>16,422</td>
</tr>
<tr>
<td>2023</td>
<td>992.36</td>
<td>410,095</td>
</tr>
<tr>
<td>2024</td>
<td>989.42</td>
<td>563,290</td>
</tr>
<tr>
<td>2025</td>
<td>994.74</td>
<td>284,202</td>
</tr>
<tr>
<td>2026</td>
<td>997.04</td>
<td>160,947</td>
</tr>
</tbody>
</table>
II. Impact of Shortage on Arizona

Arizona and Nevada have entered into an agreement defining how they will share the shortages described in the Basin States Proposal:

<table>
<thead>
<tr>
<th>Total Shortage</th>
<th>Arizona Share</th>
<th>Nevada Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>333,000 af</td>
<td>320,000 af</td>
<td>13,000 af</td>
</tr>
<tr>
<td>417,000 af</td>
<td>400,000 af</td>
<td>17,000 af</td>
</tr>
<tr>
<td>500,000 af</td>
<td>480,000 af</td>
<td>20,000 af</td>
</tr>
</tbody>
</table>

(Shortages of the magnitude described in the Basin States Proposal would not cause reductions in deliveries to California because of its statutory priority.)

Within Arizona, CAP diversions are the first to be reduced, along with mainstem Arizona water users that share the same priority as the CAP—essentially, those with water delivery contracts executed on or after September 30, 1968, sometimes referred to as “P4” water users (for Priority 4 among Arizona’s Colorado River uses).

Following an extensive public process, in October 2006 the Director of the Arizona Department of Water Resources recommended a formula for sharing shortages among CAP and the P4 mainstem water users. Under that formula, approximately 10% of any Arizona shortage will be borne by on-river P4 users, with the remainder going to CAP.

As an example, if the end-of-year elevation of Lake Mead were projected to be 1070, then the Secretary would reduce deliveries to the Lower Basin States in the following year by 333,000 af. Arizona would be reduced by 320,000 af, with about 32,000 af of that shortage going to P4 mainstem users and 288,000 af to CAP.

A. Central Arizona Project Water Users

Delivery of water to CAP customers is also based on a priority scheme. In general, water users with long-term CAP delivery contracts have priority over “excess” water users. (Excess water, by definition, is water that is not scheduled for delivery in any year by a long-term contract holder. Excess water contractors have no legal entitlement to receive CAP water in any year.)

There are three categories of long-term CAP contracts: Indian, Municipal & Industrial (M&I) and Non-Indian Agriculture (NIA). M&I and Indian contractors share the highest priority according to a formula developed in the context of the Gila River Indian Community Water Rights Settlement Agreement and approved through the Arizona Water Settlements Act of 2004. NIA is the lowest priority among long-term contracts.

There are three broad categories of excess CAP water: Ag Settlement Pool water, Full-cost excess, and recharge.
CAP non-Indian agricultural users relinquished their long-term entitlements to NIA priority water for reallocation to Indian and M&I users in accordance with the Arizona Water Settlements Act of 2004. In return, CAP agreed to make available to non-Indian agricultural users through 2030 a special category of excess water referred to as the Ag Settlement Pool. By contract, that pool has the highest priority of all excess water. The Ag Settlement Pool is initially sized at 400,000 af per year, declining to 300,000 af in 2017 and to 225,000 af in 2024.

By statute, the Arizona Water Banking Authority (AWBA) has the lowest priority of all excess CAP water users. A.R.S. §45-2427(B). The AWBA recharges, or stores, water underground for future use during shortage. When purchasing water for its replenishment reserve, the Central Arizona Groundwater Replenishment District (CAGRD) shares the same priority as AWBA. A.R.S. §48-3772(E)(8).

All other excess water uses fall in between the Ag settlement pool’s highest priority and the AWBA’s lowest priority. This includes full-cost M&I uses, such as the regular replenishment activities of the CAGRD, as well as incentive-priced recharge water offered to those who would develop long-term storage credits. Although there is no formal CAP policy to this effect, for purposes of this study we have assumed that incentive-priced recharge water would be reduced before full-cost excess water uses.

In summary, CAP water uses will be reduced during shortage in the following order:

1) AWBA and CAGRD replenishment reserve
2) Other recharge
3) Full-cost M&I excess water
4) Ag settlement pool
5) NIA long-term contract entitlements
6) M&I and Indian long-term contract entitlements

The extent to which each class of CAP water use will need to be reduced in a shortage is dependent on the total volume of Colorado River water available for diversion through the CAP and the volume scheduled by higher priority uses. This principle is illustrated graphically in Figure 4, which shows the projected demand build-up for each class of use through the interim period. AWBA/recharge demand is assumed to use up all remaining CAP supply each year. The line labeled “Max Shortage” shows what the CAP supply would be reduced to if a 500,000 acre-foot shortage were imposed on the Lower Basin States. As Figure 4 shows, the maximum shortage that would be declared under the Basin States Proposal is not expected to cause a sufficient reduction in the CAP supply to impact M&I, Indian or NIA priority water users at any point during the interim period.
Tables 2 through 4 show the anticipated shortage to each class of CAP customer under each of the three hydrologic scenarios described above.

Table 2 reflects the “Average” case. As discussed previously, no Lower Basin shortages are anticipated under this scenario during the interim period in which the Basin States Proposal would be in effect.

Table 2
Shortage by CAP Water Type -- “Average” Scenario

<table>
<thead>
<tr>
<th></th>
<th>AWBA and Recharge</th>
<th>Full-Cost Excess Water</th>
<th>Ag Settlement Pool</th>
<th>NIA</th>
<th>M&amp;I</th>
<th>Indian</th>
<th>Total CAP Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 3 shows anticipated shortages under the “Bad” hydrologic scenario. While this scenario predicts frequent shortages to the Lower Basin States, none are anticipated to be greater than 330,000, which means that CAP should not bear more than about 288,000 acre-feet of shortage in any year. As seen in Table 3, a shortage of that magnitude in any year will largely eliminate water banking and recharge activity, and could impact full-cost excess water customers. Significantly, none of these shortages would reduce the supply of water available for the Ag Settlement Pool.

Table 3
Shortage by CAP Water Type -- “Bad” Scenario

<table>
<thead>
<tr>
<th></th>
<th>AWBA and Recharge</th>
<th>Full-Cost Excess Water</th>
<th>Ag Settlement Pool</th>
<th>NIA</th>
<th>M&amp;I</th>
<th>Indian</th>
<th>Total CAP Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>288,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>288,000</td>
</tr>
<tr>
<td>2012</td>
<td>288,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>288,000</td>
</tr>
<tr>
<td>2013</td>
<td>283,000</td>
<td>5,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>288,000</td>
</tr>
<tr>
<td>2014</td>
<td>249,000</td>
<td>39,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>288,000</td>
</tr>
<tr>
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Table 4 shows what would happen under the “Worst” scenario. In this case, the CAP would experience shortage every year from 2011 through 2026. From 2016 on, all of the shortages would be the maximum—about a 432,000 acre-foot reduction in the annual CAP supply. As in the “Bad” scenario, these shortages would eliminate all recharge activity. In most years, full-cost excess water would also be unavailable. Unlike the “Bad” case, this scenario would also have a significant impact on the Ag Settlement Pool, reducing it by one-third to one-half in the later years.

<table>
<thead>
<tr>
<th>Year</th>
<th>AWBA and Recharge</th>
<th>Full-Cost Excess Water</th>
<th>Ag Settlement Pool</th>
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<th>M&amp;I</th>
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<th>Total CAP Shortage</th>
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</tbody>
</table>

As noted above, under the “Worst” scenario the elevation of Lake Mead would drop below 1000 feet asl for much of the interim period, potentially interfering with Nevada’s ability to withdraw water from Lake Mead. Table 1 showed the additional shortages that would be required in the Lower Basin to keep Lake Mead at 1000 feet asl. Table 5 shows how much of that additional shortage could be expected to fall on Arizona and CAP water users and the total shortage that would be result to CAP.
Table 5

<table>
<thead>
<tr>
<th>Year</th>
<th>Arizona Share of Additional Shortage</th>
<th>CAP Share of Additional Shortage</th>
<th>Total CAP Shortage</th>
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Table 6 shows how the increased shortage imposed by protecting elevation 1000 in Lake Mead would impact the various classes of CAP water users. Note that the 2019 shortage under this variation to the “Worst” case scenario would essentially wipe out the entire CAP water supply. Indeed, if higher priority on-river uses in Arizona are greater than projected in this analysis, a shortage of the magnitude shown below for 2019 could even result in shortages to Colorado River users in California.

Table 6

Shortage by CAP Water Type – “Worst” Scenario (Protect 1000 in Lake Mead)

<table>
<thead>
<tr>
<th>Year</th>
<th>AWBA and Recharge</th>
<th>Full-Cost Excess Water</th>
<th>Ag Settlement Pool</th>
<th>NIA</th>
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<td>Diversion (Cft)</td>
<td>Consumptive Use (Cft)</td>
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<td>Recharged (Cft)</td>
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B. Arizona On-River P4 Water Users

Unlike most CAP water users, Arizona’s 4th priority mainstream water users will be affected immediately by a Colorado River shortage. Also, unlike CAP, the P4 M&I and agricultural users all enjoy the same priority, so on-river P4 M&I users would be subject to reduction as soon as a shortage is declared on the River. In the “Bad” scenario, this would mean that P4 M&I users could face shortages as early as 2011.

Conclusion

The Colorado River is a highly variable system, subject to dramatic change in runoff from year to year. The scenarios described in this report are merely illustrations of the potential impact of shortage under various hydrologic assumptions. It is impossible to predict the future hydrology of the River.


There is, however, a reasonable chance that CAP will experience some level of shortage during the next 18 years. While we cannot predict the magnitude and duration of any shortage, our analysis suggests that CAP long-term contract holders—those with rights to Indian, M&I and NIA priority water—are not likely to experience a reduction in their supply during this period. But any prolonged shortage will seriously reduce the amount of water available for recharge by the Arizona Water Banking Authority and others in central Arizona, limiting our ability to store water to protect against future shortages that likely will impact CAP long-term contract holders. This makes it imperative that Arizona continue to store as much Colorado River water as physically possible whenever that water is available.
Appendix

Assumptions

Upper Basin Uses: Current Upper Basin use of Colorado River water is just over 4 maf per year. This analysis assumes that Upper Basin use develops at about the same rate as it has historically. This assumption differs from that used by the Bureau of Reclamation in its February 28, 2007 draft EIS on Colorado River operations (DEIS). The projections used by Reclamation—which were provided by the Upper Basin—assume a more accelerated development schedule for the Upper Basin. Reclamation and the Upper Basin have used similar projections showing rapid development for many years, but those projections have far outpaced actual development in the Upper Basin.

This analysis also assumes that Upper Basin uses decline somewhat during times of hydrologic shortage in the basin. Again, that assumption is based on the evidence in the historic record, as documented in past Reclamation reports. However, Reclamation studies typically assume that Upper Basin uses continue unabated, notwithstanding hydrologic shortage.

Reduction in Deliveries to Mexico: This analysis, like Reclamation’s DEIS, assumes that deliveries of Colorado River water to Mexico under the 1944 Treaty will be reduced proportionately whenever a shortage is declared for the Lower Basin States. Thus, whenever this analysis indicates a first level shortage of 333,000 af to the Lower Basin States, it assumes that an additional 67,000 af is not delivered to Mexico, making the total reduction in releases from Lake Mead 400,000 af. (For the second level shortage, the total reduction is 500,000 af, and for the third level shortage 600,000 af.) Actual reductions under the 1944 Treaty will be determined by the United States in consultation with Mexico.

Shortages when Lake Mead is Below Elevation 1000: Under the Basin States Proposal, when the end-of-year elevation of Lake Mead is projected to be less than 1000 feet asl, the Secretary will consult with the Basin States regarding the magnitude of further shortages. Because it is impossible to predict the outcome of such consultation, this analysis generally assumes that shortages continue at the third level (500,000 af reduction to the Lower Basin States) even when Mead falls below elevation 1000.

Shortage Sharing Between CAP and On-River P4 Users: The Arizona Department of Water Resources’ October 2006 recommendation as to how Colorado River shortages should be shared between CAP and on-river P4 water users includes a formula that is based on P4 mainstem water entitlements. The formula yields slightly different results from year to year, depending on the volume of Colorado River water projected to be used by higher priority water users in Arizona. In general, however, approximately 10% of any Arizona shortage will be borne by on-river P4 users, with the remainder going to CAP, so that is the figure used in this analysis.
Indian Demand: Impacts to CAP Indian water users are based on CAP’s best estimate of Indian demand build-out, which is less aggressive than projections typically used by the Bureau of Reclamation.

M&I Demand: Impacts to CAP M&I water users are based on CAP’s best estimate of M&I demand build-out.

Arizona Mainstream Use: Estimates of the Colorado River supply normally available to CAP each year are based on CAP’s best estimate of Arizona’s higher priority on-river demands, which are slightly less than those typically used by the Arizona Department of Water Resources. If higher priority on-river uses limited CAP to its nominal long-term contract delivery of 1.415 maf, then shortage impacts would be somewhat greater than described in this report.
Appendix B


- Excerpts from Gila River Indian Community revised CAP water delivery contract describing CAP shortage sharing formulae.
MEMORANDUM

To: Field Solicitor, Phoenix AZ

From: Robert W. Johnson
Regional Director

Subject: Information on Colorado River Water Entitlements (Your Memorandum Dated September 14, 1995)

We are attaching a discussion paper which responds to the issues raised in the subject memorandum. You may distribute the discussion paper to interested parties outside the Federal government, with the understanding that the paper reflects the current thinking of Reclamation staff on how shortages would be borne among the fourth priority users in Arizona and does not necessarily reflect official policy of Reclamation or the Department of the Interior.

We hope that the discussion paper is responsive to your request.

Attachment

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4400-chrono-4400prio.wpd
Daily

WBR:SHvinden:lm:January 10, 1996:293-8536
DISCUSSION PAPER

The Field Solicitor, Phoenix, Arizona, has requested an explanation of Reclamation's perspective on the relative priorities of the City of Kingman's (Kingman) Colorado River water entitlement that was transferred and assigned to the Mohave County Water Authority (Authority), the Cibola Valley Irrigation and Drainage District (CVIDD) Colorado River water entitlement, and Central Arizona Project (CAP) municipal and industrial (M&I) water. This paper contains the views of Reclamation staff on this issue.

There are two important dates relative to the priority of Colorado River water entitlements within Arizona's annual consumptive use apportionment of 2.8 million acre-feet of Colorado River water. The first date is the effective date of the Boulder Canyon Project Act (June 25, 1929). The Supreme Court Decree of March 9, 1964, in Arizona v. California, and the January 9, 1979, and April 16, 1984, supplements, identified those water users who were using Colorado River water as of that date and quantified their water entitlements. The Decree also identified and quantified the Colorado River entitlements for Federal purposes with a priority date based on when the lands were set aside. Those entitlements having a priority existing as of the effective date of the Boulder Canyon Project Act, which are defined as present perfected rights, have a first call on available Colorado River water during a time of shortage. The second important date is September 30, 1968, the date of enactment of the Colorado River Basin Project Act.

In the Colorado River Basin Project Act, Arizona's right to use its Colorado River apportionment under CAP and other Arizona water delivery contracts entered into after September 30, 1968, was subordinated to California's right to use its 4.4 million acre-feet apportionment during times of shortage. Section 301(a) of the Colorado River Basin Project Act provides as follows: "Article II(B)(3) of the decree of the Supreme Court of the United States in Arizona against California (376 U.S. 340) shall be so administered that in any year in which, as determined by the Secretary, there is insufficient main stream Colorado River water available for release to satisfy annual consumptive use of seven million five hundred thousand acre-feet in Arizona, California, and Nevada, diversion from the main stream for the Central Arizona Project shall be so limited as to assure the availability of water in quantities sufficient to provide for the aggregate annual consumptive use by holders of present perfected rights, by other users in the State of California served under existing contracts with the United States by diversion works heretofore constructed, and by other existing Federal reservations in that State, of four million four hundred thousand acre-feet of mainstream water, and by users of the same character in Arizona and Nevada." (underlining added for emphasis) Because of the reference to existing contracts in the above-quoted language, Reclamation staff believe that it was the intent of Congress that Arizona Colorado River water service contracts and Arizona reservations of Colorado River water that were existing or effective as of September 30, 1968, have priority during times of shortage over Arizona contracts that were not existing as of that date.

The specified entitlements you inquired about fall within what Reclamation refers to as "fourth priority" water within the State of Arizona. In any year
when there is less than 2.8 million acre-feet of Colorado River water available for consumptive use within the State of Arizona, any available water will be delivered to Arizona users in accordance with the following priorities:

First Priority: Satisfaction of present perfected rights (PPRs) as defined and provided for in the Supreme Court Decree in Arizona v. California.

Second Priority: Satisfaction of Secretarial reservations and perfected rights established or effective prior to September 30, 1968.¹

Third Priority: Satisfaction of entitlements pursuant to contracts between the United States and water users in the State of Arizona executed on or before September 30, 1968. (Note: the second and third priorities are coequal).

Fourth Priority: Satisfaction of post 1968 entitlements pursuant to: (i) contract No. 14-06-W-245 dated September 30, 1972, as amended, between the United States and the Central Arizona Water Conservation District (CAWCD) for the delivery of mainstream water for CAP, including use of mainstream water on Indian lands; and (ii) contracts, Secretarial reservations, and other arrangements between the United States and water users in the State of Arizona entered into or established subsequent to September 30, 1968, for use on Federal, State, or privately owned lands in the State of Arizona (for a total quantity not to exceed 164,552 acre-feet of diversions annually). Entitlements (i) and (ii) above are coequal and any reductions borne by those groups are on a pro rata basis unless otherwise provided by law or regulation or a reduction sharing agreement among the affected parties.

Reclamation has also defined fifth- and sixth-priority water for contracting purposes in Arizona. Fifth-priority water is unused Arizona apportionment water that may be available in any year for use in Arizona because the first through fourth-priority holders do not utilize their entitlements. Sixth-priority water includes surplus water that may be available because the Secretary declares a surplus condition on the Colorado River, because there are excess flows in the main stream, or because unused apportionment from Nevada or California is made available by the Secretary on an annual basis when users in those States are not utilizing the water. Obviously, it would be difficult to rely on fifth or sixth priority water where a stable supply is needed over a long period of time.

Under the current priority framework, the fourth-priority right holders in the State of Arizona bear nearly all of the initial shortage for the entire Colorado River system when reductions below 7.5 million acre-feet of consumptive use are required. (It is expected that water users in the State of Nevada would have to absorb 4 percent of the reduction.) The total amount of fourth-priority rights is approximately 1.66 million acre-feet, consisting

¹An example of a second priority entitlement includes the Secretarial reservation of Colorado River water for the Cibola National Wildlife Refuge. This reservation carries a 1964 priority date. See the Federal Register notice dated December 9, 1982, page 55430.
of 164,552 acre-feet of diversions contracted to non-CAP users in Arizona and approximately 1.5 million acre-feet for the CAP. It is difficult to assign a specific acre-foot quantity to the CAP entitlement because the CAP master repayment contract essentially provides to CAP the balance of Arizona’s apportionment that is not being used by higher priority users or by the other contractors sharing the CAP priority.

In a time of shortage, the initial shortage to be absorbed by Arizona would be prorated between the Arizona contractors with the fourth-priority entitlements (the contractors for the 164,552 acre-feet and the CAP). The details of how the shortage would be prorated have not been established by the Secretary.

The following represents Reclamation staff’s view of how the priority scheme would work: If a reduction is required for the fourth-priority users, the first task would be to allocate the reduction between the two groups based on each group’s share of the total fourth priority entitlement. The non-CAP and CAP users would bear 9.9 and 90.1 percent of the reduction, respectively, based on the 164,552 and 1.5 million acre-foot (normal year) amounts. Assuming that a reduction of 500,000 acre-feet were required in Arizona, the non-CAP users as a group would bear a 49,429 acre-foot reduction and CAP would bear a 450,571 acre-foot reduction. (Note: a reduction of 500,000 acre-feet in fourth-priority water is consistent with Reclamation’s current modeling of hydrologic conditions on the Colorado River during times of shortage.) Under this scenario, the 49,429 acre-foot reduction would be allocated to the non-CAP users on the basis of entitlements. Therefore, CVIDD, with an entitlement to 24,120 acre-feet, would bear a reduction equal to the ratio obtained by dividing 24,120 acre-feet by 164,552 acre-feet, or 14.7 percent. This would work out to a reduction in CVIDD’s water of 7,245 acre-feet. Similarly, the Authority would bear a reduction of 9.1 percent of the required shortage (15,000 acre-feet divided by 164,552 acre-feet times 49,429 acre-feet or 4,506 acre-feet). With respect to the CAP, the 450,571 acre-foot reduction would be borne by the non-Indian agricultural users of the Project. If the CAP Indian and M&I users were at full development at the time of shortage, the non-Indian M&I users would also have to incur part of the reduction imposed on the CAP. At full development, there are only about 350,000 acre-feet of water available for non-Indian agricultural deliveries. Therefore, an additional 100,571 acre-feet of reductions would have to occur on the CAP. Our view is that the 100,571 acre-foot reduction would come out of the non-Indian M&I block of water (the M&I water block between 510,000 and 638,823 acre-feet).”

*Even though the Secretary of the Interior has allocated 638,823 acre-feet of CAP water with a M&I priority, only 510,000 acre-feet of that block of water shares the top priority with the amount of water allocated to Indian tribes after deducting 25 percent of the amount allocated to the Gila River Indian Community and 10 percent of the amount allocated to four other Tribes for irrigation purposes. The 1980 CAP water delivery contracts with Indian Tribes contains a formula which clearly indicates that only 510,000 acre-feet of M&I water enjoys the top priority. This was confirmed by the Ak-Chin Water Rights Settlement Act of 1984. In the absence of effluent exchanges between CAP M&I users and Indian tribes, during times of shortage some or all of the M&I water in excess of 510,000 acre-feet is subject to reduction after non-
Therefore, in this case, the non-Indian M&I users would bear a shortage of 100,571 acre-feet, or about a 15.7 percent reduction in the 638,823 acre-foot M&I allocation.

This example illustrates that entities such as CVIDD and the Authority would receive 70 percent of their allocations while the CAP M&I users would receive about 84.3 percent of their allocations. This example confirms that one would be slightly better off with a CAP M&I allocation rather than having some of the 164,552 acre-feet of Colorado River water that shares the post 1968 CAP priority.

The Arizona Department of Water Resources (ADWR) and some of the Arizona contractors disagree with Reclamation's interpretation of how to implement shortages. ADWR believes that classes of users (agriculture or M&I) within the fourth priority share the same priority. In other words, ADWR takes the view that agricultural water contractors that are included in the 164,552 acre-feet of water share the same priority as the CAP agricultural users. Similarly, M&I users that are included in the 164,552 acre-foot amount share the same priority as CAP M&I users. Using the example cited above, CVIDD agricultural use (24,120 acre-feet), Mohave Valley Irrigation and Drainage District agricultural use (35,000 acre-feet of assumed agricultural use for discussion purposes), and CAP agricultural use of 350,000 acre-feet) would be reduced to zero. This would leave about 90,880 acre-feet of reductions to be shared among the non-CAP and CAP M&I users. Based on an assumption of M&I entitlements of 105,432 acre-feet for the non-CAP users and $38,823 acre-feet of CAP M&I entitlements, the non-CAP users would take 14.2 percent of the 90,880 acre-foot reduction or 12,874 acre-feet and the CAP M&I users would take the remaining 85.8 percent of the reduction or 78,006 acre-feet. In this example, the CAP M&I users and other M&I users sharing the CAP priority would receive about 88 percent of their entitlements. ADWR has indicated informally that the M&I users should be able to absorb about a 10 percent reduction in water use during times of shortage and that this result is what the State desires.

Reclamation's interpretation of how the shortage would be implemented is more favorable to the agricultural users such as CVIDD and MVIDD while ADWR's interpretation is more favorable to the M&I users. Reclamation's interpretation provides for some deliveries to the agricultural users such as CVIDD and MVIDD during times of shortage. Under the ADWR interpretation, CVIDD and MVIDD would be "shut down" during shortages. Even though the CAP non-Indian agricultural users would receive no CAP water during times of shortage, they could pump ground water and remain in business. No such option would be available to CVIDD and MVIDD under the ADWR view of how the shortage should be implemented.

Reclamation is willing to discuss alternative methods of implementing a shortage with some or all of the fourth-priority users and ADWR. If a consensus plan could be reached among the fourth-priority users for an Indian agricultural use has been reduced to zero. This reduction would occur before any reduction would be imposed on the CAP Indian tribes.
alternative shortage procedure. Reclamation would be inclined to implement such a procedure. In the future, it is conceivable that innovative concepts such as marketing and banking of Colorado River water could render the shortage dilemma discussed herein moot.

It should be emphasized that the type of shortage discussed herein is not imminent. Reclamation believes that it will be 20 to 30 years before such a shortage situation could occur.

This paper represents the best view at this time as to how Reclamation staff see "mild" shortages on the Colorado River system being implemented. This paper does not constitute official Reclamation or Departmental policy on this issue. It needs to be emphasized that differences of opinion exist in the Lower Basin water community as to how shortages should be implemented on the Colorado River system and within the CAP. When shortages do occur on the Colorado River system, and if the affected parties cannot reach consensus on how the shortage will be implemented, the Secretary will have to deal with the shortage at that time based on the best information then available and his or her interpretation of the "law of the Colorado River." after consulting with the water users and Lower Basin States in accordance with Article II(B)(3) of the Supreme Court Decree.
in the event they are unable to agree, as selected by the Secretary and at (ii) such other points as may otherwise be agreed upon or approved by the Secretary.

5.6.2 All water delivered to the Community shall be measured with equipment furnished and installed by the United States and operated and maintained by the United States or the CAP Operating Agency. Upon request of the Community, the accuracy of such measurements will be investigated by the Contracting Officer or the CAP Operating Agency and the Community, and any errors appearing therein adjusted; provided, that in the event the Parties cannot agree on the required adjustment, the Contracting Officer's determination shall be conclusive.

5.6.3 Neither the United States nor the CAP Operating Agency shall be responsible for the control, carriage, handling, use, disposal, or distribution of water beyond the turnout point(s) from the CAP System. The Community shall hold the United States and the CAP Operating Agency harmless on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death arising out of or connected with the Community's control, carriage, handling, use, disposal, or distribution of such water beyond said turnout point(s).

5.7 Priority.

5.7.1 In time of shortage the Available CAP Supply shall be distributed as described in this section 5.7.

5.7.2 For purposes of administering this Amended Contract, a time of shortage shall be a Year when:

5.7.2.1 Prior to January 1, 2044, any Year in which the Available CAP Supply for that Year is insufficient to satisfy all of the entitlements to (i) three hundred forty-three thousand seventy-nine (343,079) acre-feet of CAP Indian Priority Water; (ii) six hundred
thirty-eight thousand eight hundred twenty-three (638,823) acre-feet of CAP M&I Priority Water; and (iii) up to one hundred eighteen (118) acre-feet of CAP M&I Priority Water converted from CAP NIA Priority Water under the San Tan Irrigation District’s CAP Subcontract.

5.7.2.2 On or after January 1, 2044, any Year in which the Available CAP Supply for that Year is insufficient to satisfy all of the entitlements to (i) three hundred forty-three thousand seventy-nine (343,079) acre-feet of CAP Indian Priority water; (ii) six hundred thirty-eight thousand eight hundred twenty-three (638,823) acre-feet of CAP M&I Priority Water; (iii) up to forty-seven thousand three hundred three (47,303) acre-feet of CAP M&I Priority Water converted from CAP NIA Priority Water pursuant to the Hohokam Agreement; and (iv) up to one hundred eighteen (118) acre-feet of CAP M&I Priority Water converted from CAP NIA Priority Water under the San Tan Irrigation District’s CAP Subcontract.

5.7.3 In time of shortage the initial distribution of water shall be determined in the following manner:

5.7.3.1 If the Available CAP Supply is equal to or less than eight hundred fifty-three thousand seventy-nine (853,079) acre-feet, then 36.37518 percent of the Available CAP Supply shall be available for delivery as CAP Indian Priority Water and the remainder shall be available for delivery as CAP M&I Priority Water.

5.7.3.2 If the Available CAP Supply is greater than eight hundred fifty-three thousand seventy-nine (853,079) acre-feet, then the quantity of water available for delivery as CAP Indian Priority Water shall be determined in accordance with the following equation and the remainder shall be available for delivery as CAP M&I Priority Water:

\[ I = \left\{ \left[ 32,770 \div (E - 853,079) \right] \times W \right\} + \left( 343,079 - \left\{ \left[ 32,770 \div (E - 853,079) \right] \times E \right\}\right) \]
where:

\[ I = \text{the quantity of water available for delivery as CAP Indian Priority Water}; \]

\[ E = \text{the sum of the entitlements to CAP Indian Priority Water and CAP M&I Priority Water as described in section 5.7.2.1 or 5.7.2.2, whichever is applicable; and} \]

\[ W = \text{the Available CAP Supply}. \]

Examples:

A. If, before January 1, 2044, the sum of the entitlements to CAP Indian Priority Water and CAP M&I Priority Water as described in section 5.7.2.1 is nine hundred eighty-one thousand nine hundred two (981,902) acre-feet \((343,079 + 638,823)\), then the quantity of water available for delivery as CAP Indian Priority Water would be ninety-three thousand three hundred three (93,303) acre-feet plus 25.43800 percent of the Available CAP Supply.

B. If, after January 1, 2044, the sum of the entitlements to CAP Indian Priority Water and CAP M&I Priority Water as described in section 5.7.2.2 is one million twenty-nine thousand three hundred twenty-three (1,029,323) acre-feet \((343,079 + 638,823 + 47,303 + 118)\), then the quantity of water available for delivery as CAP Indian Priority Water would be one hundred fifty-one thousand six hundred ninety-one (151,691) acre-feet plus 18.59354 percent of the Available CAP Supply.

5.7.4 In a time of shortage unscheduled CAP Water shall be redistributed in the following manner:

5.7.4.1 Distribution of CAP Indian Priority Water among those entities with contracts for the delivery of CAP Indian Priority Water shall be as provided in section 5.7.5. Any water available for delivery as CAP Indian Priority Water that is not scheduled for delivery
pursuant to contracts, leases, or exchange agreements for the delivery of CAP Indian Priority Water shall become available for delivery as CAP M&I Priority Water.

5.7.4.2 Distribution of CAP M&I Priority Water among those entities with contracts for the delivery of CAP M&I Priority Water shall be determined by the Secretary and the CAP Operating Agency in consultation with users of CAP M&I Priority Water to fulfill all delivery requests to the greatest extent possible. Any water available for delivery as CAP M&I Priority Water that is not scheduled for delivery pursuant to contracts, leases, or exchange agreements for the delivery of CAP M&I Priority Water shall become available for delivery as CAP Indian Priority Water.

5.7.4.2.1 In consideration of the Community’s agreement to incur additional shortages beyond those that it would have incurred under the approach described in Exhibit A hereto, the Secretary shall first make available to the Community any water made available for delivery as CAP Indian Priority Water under section 5.7.4.2, to the extent necessary in any Year, to offset the additional shortages borne by the Community. After the additional shortages borne by the Community have been fully offset, the Secretary shall then make any remaining water available in accordance with CAP Contracts and CAP Subcontracts for the delivery of CAP Indian Priority Water, including this Amended Contract, in proportion to the contractual entitlements to CAP Indian Priority Water.

5.7.4.3 Any water remaining after all requests for delivery of CAP Indian Priority Water and CAP M&I Priority Water have been satisfied shall become available for delivery as CAP NIA Priority Water.

5.7.4.4 Nothing in section 5.7.4 shall be construed to allow or authorize any CAP Contractor or CAP Subcontractor to receive, pursuant to such contracts, CAP water in amounts greater than such contractor’s entitlement.
5.7.5 The distribution of CAP Indian Priority Water among CAP Indian Priority Water users shall be accomplished as follows:

5.7.5.1 If the Available CAP Supply is greater than eight hundred fifty-three thousand seventy-nine (853,079) acre-feet but less than the sum of the entitlements described in section 5.7.2.1 or 5.7.2.2, as applicable, then the Tohono O’odham Nation shall incur the portion of such shortage of CAP Indian Priority Water determined under the formula set forth in exhibit 5.3.4.1 to the TON CAP Water Delivery Contract and the Community shall incur all remaining shortages of CAP Indian Priority Water to the extent that sufficient quantities of CAP water, including all CAP M&I Priority Water available for delivery as CAP Indian Priority Water in accordance with section 5.7.4.2.1, are not available to meet orders for CAP Indian Priority Water.

5.7.5.2 If the Available CAP Supply is greater than eight hundred one thousand five hundred seventy-four (801,574) acre-feet but less than eight hundred fifty-three thousand seventy-nine (853,079) acre-feet, up to fifty one thousand five hundred five (51,505)acre-feet of shortages to the Indian sector will be shared among the Community, the Ak-Chin Indian Community, the Salt River Pima-Maricopa Indian Community, the Tohono O’odham Nation, and the San Carlos Apache Tribe. Notwithstanding the provisions of this section 5.7.5.2, during a time of shortage, the CAP Indian Priority Water available to the other four (4) tribes referenced above shall be determined in accordance with the provisions of their respective CAP water delivery contracts and any amendments thereto, which amendments shall be consistent with sections 5.7.4.2.1 and 5.7.5.

5.7.5.3 In the event that the Available CAP Supply is less than eight hundred one thousand five hundred seventy-four (801,574) acre-feet, the available CAP Indian Priority Water determined under section 5.7.3.1 shall be distributed to the Community by the
Final Execution Version – October 21, 2005

Secretary based on the ratio of the amount of water delivered pursuant to this Amended Contract in the latest non-shortage Year relative to the total quantity of water delivered to all CAP Contractors for CAP Indian Priority Water in that same Year. However, if during the last non-shortage Year the Community had not completed construction of the distribution system necessary to take and use its CAP entitlement, the Secretary will impute in the calculation the quantity of CAP water that the Community would have been expected to take had the distribution system, as it exists at the time of the shortage, been in place during such non-shortage Year. For example, if the Secretary determines that (i) in the last non-shortage Year the Community used only one hundred thirty thousand (130,000) acre-feet of its entitlement because the Distribution Works were only partially completed and would permit the delivery of only one hundred thirty thousand (130,000) acre-feet, and (ii) as of the then current Year, additional construction of the Distribution Works has been completed, and (iii) the Community can take and use, and has ordered for delivery, one hundred sixty-five thousand (165,000) acre-feet of CAP water, then the Secretary will use an imputed quantity of one hundred sixty-five thousand (165,000) acre-feet for the Community when pro-rating the available water supply among the CAP Contractors for CAP Indian Priority Water.

5.7.5.4 If any Indian tribe or nation, other than the Community, enters into a new contract or amends the term or quantity of water in an existing contract for the delivery or exchange of CAP water, then the Secretary shall require such tribe or nation to include in such new contract or amendment, a provision to share, on a proportional basis with the Community and the TON, the additional shortage that the Community and TON are bearing pursuant to sections 5.7.5.1 and 5.7.5.2 of this Amended Contract. In that event, the Community

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1 The proportion shall be based on a ratio with the numerator being the amount of such tribe’s entitlement to CAP Indian Irrigation Water and the denominator being the sum of the amounts of all tribes’ entitlement to CAP Indian Irrigation Water.
and the Secretary shall modify this Amended Contract to reflect such sharing of shortages by the other Indian tribe(s) or nation(s); provided, however, that any such shortage shared by the other tribe(s) or nation(s) shall not be greater than would have been incurred by the tribe(s) or nation(s) under their existing CAP Water Delivery Contracts at an Available CAP Water Supply of 801,574 acre-feet. The Secretary shall divide any water made available to the Community pursuant to Subparagraph 5.7.4.2.1 among the Community and those contractors whose contracts have been so amended, on the same proportional basis as shortages were shared. Such amendments shall not require the Community to incur any greater shortage of CAP Indian priority Water than is required under this Amended Contract.

5.7.6 In the event that there is any dispute regarding the amount of CAP water available to the Community during a time or shortage, or dispute regarding the operation of section 5.7 the Secretary shall make a final determination after consulting with the Community, which decision shall be subject to such challenge or appeal processes as are available or applicable.

5.7.7 If the Available CAP Supply is insufficient to meet the CAP Contracts or CAP Subcontracts for the delivery of CAP NIA Priority Water, then the Secretary and the CAP Operating Agency shall pro-rate the CAP NIA Priority Water to the CAP Contractors and CAP Subcontractors holding such entitlements on the basis of the quantity of CAP NIA Priority Water used by each such Contractor or Subcontractor in the last Year in which the Available CAP Supply was sufficient to fill all orders for CAP NIA Priority Water. However, if during the last such Year the Community had not completed construction of the distribution system necessary to take and use its entire entitlement to CAP NIA Priority Water, the Secretary shall impute in the calculation the quantity of CAP NIA Priority Water that the Community would have been expected to take had the distribution system, as it exists in the then current Year, been in place.
during the last Year in which sufficient CAP NIA Priority Water was available to fill all orders for CAP NIA Priority Water. For example, if the Secretary determines that (i) in the last Year in which sufficient CAP NIA Priority Water was available to fill all orders for CAP NIA Priority Water, the Community used only ninety thousand (90,000) acre-feet of its entitlement to the delivery of CAP NIA Priority Water because the Distribution Works were only partially completed and would permit the delivery of only ninety thousand (90,000) acre-feet, and (ii) as of the then current Year, additional construction of the Distribution Works has been completed, and (iii) the Community can take and use, and has ordered for delivery, one hundred ten thousand (110,000) acre-feet of CAP NIA Priority Water, then the Secretary will use an imputed quantity of one hundred ten thousand (110,000) acre-feet for the Community when pro-rating the CAP NIA Priority Water.

5.8 The shortage sharing criteria in section 5.7 shall not apply to water acquired from the Yuma-Mesa Division of the Gila Project pursuant to the Ak-Chin Indian Community Water Rights Settlement Act, Pub. L. 98-530, or water acquired from the Wellton-Mohawk Irrigation and Drainage District pursuant to the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act, Pub. L. 100-512, both of which have a higher priority than Fourth Priority Water.

5.9 Secretarial Control of Return Flow. The Secretary reserves the right to capture all Return Flow flowing from the exterior boundaries of the Community's CAP Service Area as a source of supply and for distribution to and use of CAP to the fullest extent practicable. The Community may recapture and reuse or sell Return Flow within the exterior boundaries of the Community's CAP Service Area; provided, however, that such Return Flow captured within the Community's CAP Service Area may not be sold for use outside the Community's CAP Service Area unless the Secretary has given prior written approval.
Appendix C

- Arizona Water Settlements Agreement
Arizona Water Settlement
Agreement

This Agreement is among the United States of America, acting through the Secretary of the Interior (Secretary) and the United States Bureau of Reclamation, Lower Colorado Regional Office; and the State of Arizona, acting through the Arizona Department of Water Resources (ADWR); and the Central Arizona Water Conservation District (CAWCD), a political subdivision of the State of Arizona.

1. Recitals of Authority

1.1 The United States, acting through the Department of the Interior, is entering into this agreement pursuant to the Act of June 17, 1902, 32 Stat. 388, and acts amendatory thereof and supplementary thereto, including, but not limited to the Boulder Canyon Project Act of December 21, 1928 (45 Stat. 1057), as amended, the Reclamation Project Act of August 4, 1939 (53 Stat. 1187), as amended, the Colorado River Basin Project Act of September 30, 1968 (82 Stat. 885), as amended, all collectively referred to as the “Federal Reclamation Laws.”

1.2 The State of Arizona, acting through the Arizona Department of Water Resources, is entering into this agreement pursuant to Arizona Revised Statutes, Title 45, Ch. 1.

1.3 The Central Arizona Water Conservation District is entering into this agreement pursuant to Arizona Revised Statutes, Title 48, Ch. 22.

2. Definitions


2.3 “CAIDD” shall mean the Central Arizona Irrigation and Drainage District, a political subdivision of the State of Arizona.

2.4 “CAP” shall mean the Central Arizona Project, as authorized and constructed pursuant to the Colorado River Basin Project Act of 1968. For purposes of this Agreement, CAP shall have the same meaning as described in the CAP Repayment Stipulation.

2.5 “CAP Repayment Stipulation” shall mean the Revised Stipulation Regarding a Stay of Litigation, Resolution of Issues During the Stay and for Ultimate Judgment Upon Satisfaction of Conditions, filed with the United States District Court for the District of Arizona in Central Arizona Water Conservation District v. United States, et al., No. CIV-95-625-TUC-WDB (EHC), No. CIV-95-1720-PHX-EHC (Consolidated Action),
and that court’s order dated April 28, 2003, and any amendments or revisions thereof.

2.6 “Currently Uncontracted M&I Priority water” shall mean 65,647 acre-feet of CAP municipal and industrial priority water that was allocated in the 1983 ROD, but for which a long-term contract has not been entered.

2.7 “GRIC Settlement Agreement” shall mean the Gila River Indian Community Water Rights Settlement Agreement as defined in the Act.

2.8 “HIDD” shall mean the Hohokam Irrigation and Drainage District, a political subdivision of the State of Arizona.

2.9 “Hohokam Agreement” shall mean the Agreement Among the United States, the Central Arizona Water Conservation District, the Hohokam Irrigation and Drainage District, and the Arizona Cities of Chandler, Mesa, Phoenix and Scottsdale, dated December 21, 1993.

2.10 “Hohokam 9(d) Debt” shall mean that portion of the debt to the United States incurred by HIDD under section 9(d) of the Reclamation Project Act of 1939 that is payable by HIDD under section 4.2.2 of the Hohokam Agreement.

2.11 “MSIDD” shall mean the Maricopa-Stanfield Irrigation & Drainage District, a political subdivision of the State of Arizona.

2.12 “NIA Priority water” shall mean CAP water having a non-Indian agricultural priority as described in subparagraph 8.16 of the GRIC Settlement Agreement.

3. Purpose of this Agreement

3.1 This agreement memorializes the parties’ intended approach to settle all current CAP allocation issues between the United States and the State of Arizona by agreeing to make certain quantities of NIA Priority water available to the Secretary for allocation to Indian communities, and certain quantities available to ADWR to be held in trust for future allocation by the Secretary to non-Indian users within Arizona in a manner consistent with the Act.

3.2 This agreement also requires a reallocation of the Currently Uncontracted M&I Priority water, and an allocation of and contract for mainstream Colorado River water under the Boulder Canyon Project Act of 1928 to the Mohave County Water Authority in exchange for the voluntary relinquishment by Mohave County Water Authority of certain contractual rights to NIA Priority water.

4. Quantification of NIA Priority water available for Contract.

4.1 The parties agree that, for the purpose of entering into long term contracts and subcontracts for CAP water under the Colorado River Basin Project Act of 1968 and the CAP Repayment Stipulation, the quantity of CAP water available for long-term contract or subcontract, and the quantity of
NIA Priority water available for long term contracts and subcontracts shall be calculated as follows:

4.1.1 The normal year supply of Colorado River water available for CAP is deemed to be 1,490,000 acre-feet per year for purposes of long-term contracting. This supply includes the CAP Project Water delivered in accordance with the Ak-Chin Indian Community Water Rights Settlement Act of 1984, Pub. L. 98-530 (the “Ak-Chin Act”), and the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988, Pub. L. 100-512 (the “SRPMIC Act”). Nothing in this agreement shall preclude CAWCD from diverting more than 1,490,000 acre-feet of Colorado River water in any year, but such excess diversion shall not be available for long-term contract or subcontract.

4.1.2 To determine the amount of CAP water available for long-term contract and subcontract, canal losses and other operational losses for the CAP system must be subtracted. For purposes of this agreement, such losses shall be deemed to be 75,000 acre-feet per year for a normal year supply.

4.1.3 The normal year supply of CAP water available for long-term contract or subcontract shall be 1,415,000 acre-feet (1,490,000 acre-feet diverted from the Colorado River less 75,000 acre-feet of system loss).

4.1.4 Of the 1,415,000 acre-feet available for long-term contract or subcontract, the Secretary allocated 309,828 acre-feet to Indian uses and 638,823 acre-feet to municipal and industrial (“M&I”) uses in the 1983 ROD. That left 466,349 acre-feet available for use by non-Indian agriculture in a normal year (the “1983 NIA Supply”).

4.1.5 The 1983 NIA Supply was subsequently reduced as follows:

4.1.5.1 Under the Ak-Chin Act, the Secretary acquired 50,000 acre-feet of Colorado River water from the Yuma-Mesa Division of the Gila Project. After deducting for CAP system losses (deemed to be 5%), this acquisition resulted in a decrease of 47,500 acre-feet in the amount of CAP water available for use by non-Indian agriculture in a normal year.

4.1.5.2 Under the SRPMIC Act, the Secretary acquired 22,000 acre-feet of Colorado River water from the Wellton-Mohawk Irrigation and Drainage District. After deducting for CAP system losses (deemed to be 5%), this acquisition resulted in a decrease of 20,900 acre-feet in the amount of
CAP water available for use by non-Indian agriculture in a normal year.

4.1.5.3 Under the Fort McDowell Indian Community Water Rights Settlement Act of 1990, Pub. L. 101-628, the Secretary acquired the CAP entitlement of Harquahala Valley Irrigation District and was authorized to convert that water from CAP non-Indian agricultural priority to CAP Indian priority. This acquisition resulted in a decrease of 33,251 acre-feet in the amount of CAP water available for use by non-Indian agriculture in a normal year.

4.1.5.4 Under the SRPMIC Act, the Roosevelt Water Conservation District (“RWCD”) assigned 5,000 acre-feet of its CAP entitlement to certain Arizona cities. That assignment resulted in a corresponding decrease in the amount of CAP water available for use by non-Indian agriculture in a normal year.

4.1.5.5 Under an August 7, 1992 agreement among RWCD, the Secretary and the Gila River Indian Community (“GRIC”), RWCD relinquished the remainder of its CAP entitlement for the use and benefit of GRIC. That relinquishment resulted in a decrease of 18,600 acre-feet in the amount of CAP water available for use by non-Indian agriculture in a normal year.

4.1.5.6 Under the Hohokam Agreement, the CAP entitlement of HIDD and certain additional non-Indian agricultural water was subcontracted to the cities of Chandler, Mesa, Phoenix and Scottsdale. That action resulted in a decrease of 47,303 acre-feet in the amount of CAP water available for use by non-Indian agriculture in a normal year.

4.1.6 As a result of the reductions in the non-Indian agricultural water supply described in subparagraph 4.1.5, the remaining amount of CAP water available for use by non-Indian agriculture in a normal year is 293,795 acre-feet.

4.2 The parties agree that the maximum amount of NIA Priority water that may be available for reallocation under this agreement is 293,795 acre-feet.
5. Water Available for Reallocation.

5.1 Voluntary Relinquishments.

5.1.1 CAWCD shall distribute voluntary relinquishment agreements in the form attached as Exhibit 5.1.1 to this agreement to Maricopa-Stanfield Irrigation & Drainage District, Central Arizona Irrigation and Drainage District, Chandler Heights Citrus Irrigation District, Queen Creek Irrigation District, San Tan Irrigation District, Tonopah Irrigation District and New Magma Irrigation and Drainage District (collectively, the Agricultural subcontractors).

5.1.2 Each Agricultural subcontractor will be given a reasonable amount of time to execute a voluntary relinquishment agreement.

5.1.3 The voluntary relinquishment agreements shall become effective upon satisfaction of all conditions contained therein.

5.1.4 For purposes of this agreement, the total amount of NIA Priority water that may be relinquished by each Agricultural subcontractor is deemed to be as shown in table 5.1.4.

**Table 5.1.4**

<table>
<thead>
<tr>
<th>Agricultural subcontractor</th>
<th>NIA Priority water (acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maricopa-Stanfield Irrigation &amp; Drainage District</td>
<td>89,861</td>
</tr>
<tr>
<td>Central Arizona Irrigation and Drainage District</td>
<td>89,821</td>
</tr>
<tr>
<td>Chandler Heights Citrus Irrigation District</td>
<td>1,185</td>
</tr>
<tr>
<td>Queen Creek Irrigation District</td>
<td>19,078</td>
</tr>
<tr>
<td>San Tan Irrigation District</td>
<td>3,041</td>
</tr>
<tr>
<td>Tonopah Irrigation District</td>
<td>7,821</td>
</tr>
<tr>
<td>New Magma Irrigation and Drainage District</td>
<td>11,415</td>
</tr>
</tbody>
</table>

5.1.5 If any Agricultural subcontractor retains a portion of its entitlement to NIA Priority water as provided in paragraph 6, then the amount deemed to be relinquished by that Agricultural subcontractor shall be reduced by the amount of entitlement retained. For example, if Maricopa-Stanfield Irrigation & Drainage District retained 30,000 acre-feet of its current entitlement, then it would be deemed to have relinquished 59,861 acre-feet (89,861 minus 30,000).

5.1.6 Any water relinquished under a voluntary relinquishment agreement shall be available for reallocation in accordance with paragraph 9.
5.2 Uncontracted NIA Priority Water.

5.2.1 The provisions of this subparagraph 5.2 shall become effective upon enactment of the Act.

5.2.2 The Secretary shall publish a notice in the Federal Register in substantially the same form as Exhibit 5.2.2 modifying and terminating the applicable provisions of the Record of Decision published in the Federal Register on February 5, 1992 (57 Fed. Reg. 4470). Such notice shall state that it is published pursuant to the Act and is therefore a revocable action under the applicable provisions of the Act.

5.2.3 Following publication of the notice pursuant to subparagraph 5.2.2, 71,573 acre-feet of NIA Priority water shall be available for reallocation in accordance with paragraph 9. Such water is in addition to water available for reallocation under subparagraph 5.1.6.

6. Retention of NIA Priority Water by Agricultural Subcontractors

6.1 Any Agricultural subcontractor with an existing water service subcontract for NIA Priority water may elect to retain a portion of its current entitlement to NIA Priority water. Such election must be made at the time the Agricultural subcontractor executes a voluntary relinquishment agreement. Table 6.1 identifies those Agricultural subcontractors that have an existing water service subcontract for NIA Priority water and the current entitlement for each, expressed both as a percentage of the available CAP agricultural water supply and as a fixed quantity of the NIA Priority water available for long-term contracting as described in paragraph 4.2.

Table 6.1

<table>
<thead>
<tr>
<th>Agricultural subcontractor</th>
<th>Current Entitlement (percentage of ag supply)</th>
<th>Current Entitlement (fixed quantity in acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maricopa-Stanfield Irrigation &amp; Drainage District</td>
<td>20.48%</td>
<td>60,169</td>
</tr>
<tr>
<td>Central Arizona Irrigation and Drainage District</td>
<td>18.01%</td>
<td>52,912</td>
</tr>
<tr>
<td>Chandler Heights Citrus Irrigation District</td>
<td>0.28%</td>
<td>823</td>
</tr>
<tr>
<td>Queen Creek Irrigation District</td>
<td>4.83%</td>
<td>14,190</td>
</tr>
<tr>
<td>San Tan Irrigation District</td>
<td>0.77%</td>
<td>2,262</td>
</tr>
<tr>
<td>Tonopah Irrigation District</td>
<td>1.98%</td>
<td>5,817</td>
</tr>
</tbody>
</table>
6.2 The retained entitlement shall be expressed as a fixed quantity of NIA Priority water. For example, if MSIDD retained 10 percent of its current entitlement, then it would be entitled to 6,017 acre-feet of NIA Priority water.

6.3 CAWCD will charge the Agricultural subcontractor the same rate for delivery of the retained NIA Priority water as it charges other long-term CAP subcontractors.

6.4 CAWCD will require the Agricultural subcontractor to take delivery of all retained NIA Priority water under its subcontract before it may receive any other CAP water, whether for direct or in lieu use.

6.5 The Secretary and CAWCD shall require the Agricultural subcontractor to pay to CAWCD each year a 9(d) debt service charge. The annual 9(d) debt service charge shall be computed by multiplying the annual 9(d) debt payment shown in Exhibit 7.2 for that subcontractor by the ratio obtained by dividing the NIA Priority water entitlement retained by the subcontractor by the current entitlement for that subcontractor as shown in Table 6.1. For example, if MSIDD retained 10 percent of its current entitlement, then it would be responsible each year for paying CAWCD 10 percent of the 9(d) debt payment shown in Exhibit 7.2 for MSIDD for that year.

6.6 The Secretary and CAWCD shall amend the CAP water service subcontract of any Agricultural subcontractor that retains a portion of its current entitlement to NIA Priority water. The amended subcontract shall: (i) be for a fixed quantity of NIA Priority water; (ii) require the subcontractor to pay 9(d) debt service charges to CAWCD; (iii) provide that CAP water may be used only within the subcontractor’s service area, which is delineated on a map filed with CAWCD and approved by CAWCD and the Secretary; (iv) provide that failure to make any payment when due, including any 9(d) debt service charge, shall cause the subcontract to terminate; and (v) provide that upon termination the NIA Priority water entitlement under the subcontract shall immediately be reallocated to ADWR as provided in subparagraph 9.3. The form of amended subcontract shall be as in Exhibit 6.6 to this agreement.

6.7 An Agricultural subcontractor that retains a portion of its current entitlement to NIA Priority water may assign all or part of its amended subcontract to an individual landowner within the Agricultural subcontractor’s service area for use on CAP eligible acres owned by the individual landowner. The form of assignment shall be as in Exhibit 6.7 to this agreement.

6.7.1 CAWCD and the Secretary shall approve any such assignment that conforms to this agreement.
6.7.2 Upon validation of the assignee’s subcontract, the Agricultural subcontractor shall have no further rights or obligations as to the portion of its CAP entitlement assigned to the landowner.


7.1. Except as provided in subparagraph 7.3, this paragraph 7 shall become effective upon satisfaction of all conditions in subparagraph 13.3.

7.2. Exhibit 7.2 lists those Agricultural subcontractors eligible to participate in voluntary relinquishment agreements that have incurred debt to the United States under section 9(d) of the Reclamation Project Act of 1939 and identifies for each subcontractor the 9(d) debt payments remaining after payment of all installments due through December 31, 2003. Exhibit 7.2 also identifies the Hohokam 9(d) Debt.

7.3. Any Agricultural subcontractor that executes a voluntary relinquishment agreement as provided in subparagraph 5.1 shall be relieved of its 9(d) debt in accordance with this paragraph and subparagraph 6.5, effective upon satisfaction of all conditions in the voluntary relinquishment agreement.

7.4. HIDD shall be entitled to relief from the Hohokam 9(d) Debt in accordance with this paragraph.

7.5. CAWCD shall promptly remit to the United States all 9(d) debt service charges collected pursuant to paragraph 6.5.

7.6. For HIDD and for each Agricultural subcontractor that has executed a voluntary relinquishment agreement as provided in subparagraph 5.1, the United States shall annually apply the 9(d) debt service charges remitted by CAWCD pursuant to subparagraph 7.5 against the installment payments shown on Exhibit 7.2 and shall declare the remainder of that year’s installment payments to be non-reimbursable and non-returnable to the United States, up to an aggregate total of $73,561,337.00. Discharge of payments under this subparagraph shall not accelerate any remaining payments and shall not affect any obligation the Agricultural subcontractor or its assignee(s) may have to pay 9(d) debt service charges to CAWCD under its subcontract as amended pursuant to subparagraphs 6.5 and 6.6.

7.7. After $73,561,337.00 of 9(d) debt has been discharged under paragraph 7.6, CAWCD shall pay to the United States all remaining installment payments shown on Exhibit 7.2 for HIDD and for each Agricultural subcontractor that executed a voluntary relinquishment agreement as
provided in subparagraph 5.1. The installments assumed by CAWCD shall be due and payable to the United States on the same dates and in the same amount that they would have been due absent this agreement, consistent with any applicable extensions approved by the Secretary.

7.8. The Secretary shall amend the 9(d) debt repayment contracts of HIDD and each Agricultural subcontractor that has executed a voluntary relinquishment agreement as provided in subparagraph 5.1 to conform to this paragraph.

8. Interim Provisions

8.1. Pursuant to section 106(b)(2) of the Act, the Secretary shall extend on an annual basis the 9(d) debt repayment schedule in Exhibit 7.2. The effect of each annual extension shall be to postpone the due date of all remaining installment payments by one year. Such extensions shall commence with payments due in calendar year 2004 and shall continue until all conditions in subparagraph 13.3 have been satisfied or until this agreement is terminated, whichever comes first. No penalties, interest or other liability shall accrue as a result of any such extension.

8.1.1. When all conditions in subparagraph 13.3 have been satisfied, 9(d) debt repayment shall be in accordance with paragraph 7.

8.1.2. If this agreement is terminated, then each Agricultural subcontractor shall be responsible for repayment to the United States of its 9(d) debt in accordance with its repayment contract as modified by the extension(s) provided by Reclamation pursuant to federal law, including those provided under subparagraph 8.1. This subparagraph shall survive termination of this agreement.

8.1.3. This paragraph 8.1 shall not apply to the portion of any 9(d) debt payment that is required to be paid by an Agricultural subcontractor pursuant to subparagraph 6.5. Payment of 9(d) debt service charges pursuant to subparagraph 6.5 shall be made in the same year as shown on the schedule of payments in Exhibit 7.2.

8.2. Beginning in 2004 and continuing until all conditions in subparagraph 13.3 have been satisfied or until this agreement is terminated, whichever comes first, CAWCD shall provide excess CAP water to HIDD and to any Agricultural subcontractor that has executed a voluntary relinquishment agreement as provided in paragraph 5.1 in accordance with the agricultural pool and pricing policy for 2004 to 2030 adopted by the CAWCD Board of Directors and the excess water contract attached as Exhibit 8.2 to this agreement.
8.2.1. When all conditions in subparagraph 13.3 have been satisfied, CAWCD shall provide water in accordance with the voluntary relinquishment agreement and excess water contract attached thereto.

8.2.2. If this agreement is terminated, then CAWCD shall be under no obligation to continue providing water in accordance with the agricultural pool and pricing policy for 2004 to 2030 adopted by the CAWCD Board of Directors.

9. **Reallocation of NIA Priority Water**

9.1. The provisions of this paragraph 9 shall become effective upon enactment of the Act.

9.2. **Water Available to the Secretary for Indian Uses.**

9.2.1. The first 197,500 acre-feet of NIA Priority water available under paragraph 5 for reallocation shall be reallocated by the Secretary as follows:

9.2.1.1. The Secretary shall reallocate 102,000 acre-feet to the Gila River Indian Community in accordance with section 104(a)(1)(A)(i) of the Act.

9.2.1.2. The Secretary shall reallocate 28,200 acre-feet to the Tohono O’Odham Nation in accordance with section 104(a)(1)(A)(ii) of the Act.

9.2.1.3. The Secretary shall retain 67,300 acre-feet for reallocation to Arizona Indian tribes, subject to the conditions specified in section 104(a)(1)(B) of the Act.

9.3. **Water Available to ADWR for Non-Indian M&I Uses.**

9.3.1. After 197,500 acre-feet has been made available to the Secretary for reallocation under subparagraph 9.2, all remaining NIA Priority water available under paragraph 5 for reallocation shall be reallocated by the Secretary to ADWR in accordance with section 104(a)(2) of the Act.

9.3.2. If any additional NIA Priority water becomes available for reallocation as a result of the termination of a CAP subcontract amended as provided in subparagraph 6.6, the Secretary shall immediately reallocate that water to ADWR.
9.3.3. ADWR shall hold all water reallocated to it under this subparagraph in trust for future reallocation to non-Indian M&I water users in accordance with this subparagraph 9.3 and section 104(a)(2) of the Act. ADWR may not use any of the reallocated water itself.

9.3.4. The CAP water held in trust by ADWR (“Trust Water”) shall be reallocated to non-Indian M&I water users in accordance with section 104(a)(2)(C) of the Act, ADWR policy and the following:

9.3.4.1. ADWR shall not make a recommendation to the Secretary for Trust Water prior to January 1, 2010, but may thereafter recommend that any or all Trust Water be reallocated to specified M&I water users. The Secretary shall act upon such recommendation in accordance with the Act.

9.3.4.2. ADWR shall make Trust Water available for reallocation to non-Indian M&I water users within the State of Arizona at periodic intervals, starting in 2010. Only those M&I water users that meet the criteria established by ADWR shall be eligible to receive Trust Water. ADWR shall retain a sufficient amount of Trust Water through 2030 to satisfy the rights of first refusal described in paragraphs 9.3.4.3 through 9.3.4.6.

9.3.4.3. Through 2020, M&I water providers serving the area shown on Exhibit 9.3.4.3 (the “CAIDD Area”) that meet ADWR’s eligibility criteria shall have a right of first refusal to 7.8% of the Trust Water offered at each interval, up to an aggregate maximum of 7,500 acre-feet. Exhibit 9.3.4.3 shall be amended to exclude any lands for which NIA Priority water is being retained by CAIDD or its assignee(s) under an amended subcontract as provided in paragraph 6.

9.3.4.3.1. If, at the time ADWR makes Trust Water available to non-Indian M&I water users, NIA Priority water is being retained by CAIDD or its assignee(s) under an amended subcontract as provided in paragraph 6, the retained water shall count against the aggregate maximum of 7,500 acre-feet for the CAIDD Area, but shall not count against the 7.8% right of first refusal unless the 7.8% plus the retained water would exceed 7,500 acre-feet.

9.3.4.3.2. If M&I water providers serving the CAIDD Area do not exercise their full right of first refusal, then the
unexercised portion of that right shall carry forward to the next offering of Trust Water.

9.3.4.4. Through 2020, M&I water providers serving the area shown on Exhibit 9.3.4.4 (the “MSIDD Area”) that meet ADWR’s eligibility criteria shall have a right of first refusal to 7.8% of the Trust Water offered at each interval, up to an aggregate maximum of 7,500 acre-feet. Exhibit 9.3.4.4 shall be amended to exclude any lands for which NIA Priority water is being retained by MSIDD or its assignee(s) under an amended subcontract as provided in paragraph 6.

9.3.4.4.1. If, at the time ADWR makes Trust Water available to non-Indian M&I water users, NIA Priority water is being retained by MSIDD or its assignee(s) under an amended subcontract as provided in paragraph 6, the retained water shall count against the aggregate maximum of 7,500 acre-feet for the MSIDD Area, but shall not count against the 7.8% right of first refusal unless the 7.8% plus the retained water would exceed 7,500 acre-feet.

9.3.4.4.2. If M&I water providers serving the MSIDD Area do not exercise their full right of first refusal, then the unexercised portion of that right will carry forward to the next offering of Trust Water.

9.3.4.5. From 2021 through 2030, the rights of first refusal described in paragraphs 9.3.4.3 and 9.3.4.4 shall be combined and shall be available to M&I water providers that are serving either the CAIDD Area or the MSIDD Area and that meet ADWR’s eligibility criteria.

9.3.4.6. Beginning in 2030, if M&I water providers serving the CAIDD Area of MSIDD Area have not exercised their right of first refusal as to all of the Trust Water available under paragraphs 9.3.4.3 through 9.3.4.5, then the Pinal County Water Augmentation Authority (PCWAA) shall have a right of second refusal as to the remainder of that water. PCWAA must meet the criteria established by ADWR to be eligible to receive Trust Water.

9.3.4.7. The rights of refusal described in paragraphs 9.3.4.3 through 9.3.4.6 do not limit the amount of Trust Water that may be reassigned to M&I water providers in Pinal County. If M&I water providers in Pinal County request additional Trust Water
over and above the amount available to them under their right of first or second refusal, ADWR shall consider their request for additional water on the same basis as requests for Trust Water from M&I water providers serving other areas.

9.4. All NIA Priority water reallocated under this paragraph shall retain its NIA priority.

9.5. All reallocations made under subparagraphs 9.2 and 9.3 and all contracts for NIA Priority water reallocated under subparagraphs 9.2 and 9.3 shall be contingent on satisfaction of all conditions in subparagraph 13.3 and all conditions in the voluntary relinquishment agreements by the dates specified therein.


10.1. The provisions of this paragraph 10 shall become effective upon enactment of the Act.

10.2. In accordance with the Act, the Secretary shall allocate the Currently Uncontracted M&I Priority water as shown in Table 10.2.

**Table 10.2**

<table>
<thead>
<tr>
<th>Applicant</th>
<th>Amount (acre feet)</th>
<th>Applicant</th>
<th>Amount (acre feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town of Superior</td>
<td>285</td>
<td>AVRA Cooperative</td>
<td>808</td>
</tr>
<tr>
<td>Cave Creek Water Company</td>
<td>806</td>
<td>City of Chandler</td>
<td>4,986</td>
</tr>
<tr>
<td>Chaparral Water Company</td>
<td>1,931</td>
<td>Del Lago (Vail) Water Company</td>
<td>1,071</td>
</tr>
<tr>
<td>Town of El Mirage</td>
<td>508</td>
<td>City of Glendale</td>
<td>3,053</td>
</tr>
<tr>
<td>City of Goodyear</td>
<td>7,211</td>
<td>Community Water Company of Green Valley</td>
<td>1,521</td>
</tr>
<tr>
<td>H2O Water Company</td>
<td>147</td>
<td>Metropolitan Domestic Water Improvement District</td>
<td>4,602</td>
</tr>
<tr>
<td>City of Mesa</td>
<td>7,115</td>
<td>Town of Oro Valley</td>
<td>3,557</td>
</tr>
<tr>
<td>City of Peoria</td>
<td>5,527</td>
<td>City of Phoenix</td>
<td>8,206</td>
</tr>
<tr>
<td>City of Scottsdale</td>
<td>2,981</td>
<td>City of Surprise</td>
<td>2,876</td>
</tr>
<tr>
<td>Tucson Water</td>
<td>8,206</td>
<td>Valley Utilities Water Company</td>
<td>250</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>65,647</strong></td>
</tr>
</tbody>
</table>

10.3. The Secretary and CAWCD shall offer M&I subcontracts to the above listed providers reflecting the amount of water in this reallocation in addition to any water already under contract to that provider. The new
subcontract or amendment to existing subcontract shall conform to the requirements of subsections 104(d)(1) and (2) of the Act.

10.4. All contracts for Currently Uncontracted M&I Priority water allocated under this paragraph 10 shall be contingent on satisfaction of all conditions in subparagraph 13.3 by the date specified therein.

11. Allocation of Mainstream Colorado River Water

11.1. This paragraph 11 shall become effective upon execution of this agreement and shall survive termination of this agreement.

11.2. Upon execution of this agreement, the Secretary shall, in cooperation with the Mohave County Water Authority, amend Bureau of Reclamation Contract No. 5-07-30-W0320, dated December 12, 1995, to accomplish the following: (i) allocate and contract to Mohave County Water Authority 3,500 acre-feet of Arizona fourth priority mainstream Colorado River water; (ii) delete the allocation and contract of 3,500 acre-feet of Arizona fifth and sixth priority mainstream Colorado River water; and (iii) delete the reference to allocation of future NIA Priority water to Mohave County Water Authority.

11.3. The Secretary shall reserve 3,500 acre-feet of currently uncontracted Arizona fourth priority mainstream Colorado River water for use in a future Navajo-Hopi Indian water rights settlement. The water reserved under this subparagraph shall not be allocated, nor shall any contract be issued under the Boulder Canyon Project Act for the use of this water, until a final Indian water rights settlement for the Navajo Nation has been approved by Congress, finalizing Navajo claims to the mainstream of the Colorado River within Arizona.


12.1. MSIDD and CAIDD are express third party beneficiaries as to the rights of first refusal set forth in subparagraphs 9.3.4.3 through 9.3.4.6.

12.2. Nothing in this agreement is intended to affect any party’s obligations under applicable law.

12.3. No party shall take any action that is inconsistent with the party’s ability to perform its obligations under this agreement, including obligations that arise upon passage of the Act and fulfillment of the conditions of subparagraph 13.3 and the voluntary relinquishment agreements.

12.4. Nothing in this agreement may be used against either CAWCD or the United States in Central Arizona Water Conservation District v. United
States, Nos. CIV 95-625-TUC-WDB (EHC) and CIV 95-1720-PHX-EHC (Consolidated Action). This subparagraph shall survive termination of this agreement.

13. Effectiveness and Termination

13.1. Except as expressly provided in paragraphs 5.2, 7, 9 and 10, this agreement is effective upon execution by the parties.

13.2. The United States may terminate this agreement if the total amount of water available for reallocation under paragraph 9 is less than 197,500 acre-feet.

13.3. This agreement shall terminate if all of the following conditions have not been satisfied by December 31, 2007:

   13.3.1. The Gila River Indian Community water rights settlement agreement has been executed by the parties thereto and has been authorized, ratified and confirmed by Congress.

   13.3.2. This agreement has been authorized, ratified and confirmed by Congress.

   13.3.3. Congress has passed legislation declaring up to $73,561,337 in 9(d) debt to be non-reimbursable and non-returnable to the United States in accordance with subparagraph 7.6.

   13.3.4. Congress has passed legislation declaring land within the exterior boundaries of CAWCD or served by CAP water to be exempt from the Reclamation Reform Act and any other acreage limitation or full cost pricing provision of federal law.

   13.3.5. Final judgment has been entered by the United States District Court for the District of Arizona in Central Arizona Water Conservation District v. United States, et al., No. CIV-95-625-TUC-WDB (EHC), No. CIV-95-1720-PHX-EHC (Consolidated Action), in accordance with the CAP Repayment Stipulation.

   13.3.6. Any other action or event as to which the Secretary is to publish a statement of findings under section 207(c) of the Act has occurred.

13.4. Except as expressly provided in paragraph 11 and subparagraphs 8.1.2 and 12.4, no provision of this agreement shall survive termination.

13.5. If the date by which the Secretary is required to publish a statement of findings under section 207(c) of the Act is amended by subsequent act of

15
Congress, then the deadline for satisfying the conditions in paragraph 13.3 will automatically be amended to conform.

UNITED STATES OF AMERICA

By: ________________________
Secretary of the Interior

CENTRAL ARIZONA WATER
CONSERVATION DISTRICT

Attest: __________
Secretary

By: ________________________
President

ARIZONA DEPARTMENT OF
WATER RESOURCES

By: ________________________
Director
Exhibits

Exhibit 5.1.1  Voluntary Relinquishment Agreement
(A) Full Relinquishment
(B) Partial Relinquishment

Exhibit 5.2.2  Federal Register Notice

Exhibit 6.6  NIA Subcontract Amendment

Exhibit 6.7  NIA Subcontract Assignment

Exhibit 7.2  9(d) Debt Payment Schedule

Exhibit 8.2  New Excess Water Contract

Exhibit 9.3.4.3  CAIDD Area Map

Exhibit 9.3.4.4  MSIDD Area Map
Appendix D

- ADWR Substantive Policy Statement: Policy and Procedures for Transferring an Entitlement of Colorado River Water

- ADWR Substantive Policy Statement: Revised Policy Regarding the Transfer of Central Arizona Project Municipal and Industrial Subcontract Entitlements
ARIZONA DEPARTMENT OF WATER RESOURCES
3550 North Central Avenue, Phoenix, Arizona 85012
Telephone 602 771-8426
Fax 602 771-8681

ARIZONA DEPARTMENT OF WATER RESOURCES

SUBSTANTIVE POLICY STATEMENT

Revised Policy Regarding Transfer of Central Arizona Project
Municipal and Industrial Water Subcontract Entitlements

This substantive policy statement is advisory only. A substantive policy statement does not include internal procedural documents that only affect the internal procedures of the agency and does not impose additional requirements or penalties on regulated parties or include confidential information or rules made in accordance with the Arizona administrative procedure act. If you believe that this substantive policy statement does impose additional requirements or penalties on regulated parties, you may petition the agency under Arizona Revised Statutes § 41-1033 for a review of the statement.
ARIZONA DEPARTMENT OF WATER RESOURCES

Revised Policy Regarding Transfer of Central Arizona Project Municipal and Industrial Water Subcontract Entitlements

February 27, 2006

I. Introduction

A. Scope of Policy.

For clarification purposes, the Arizona Department of Water Resources (Department) revised its 1996 policy regarding transfers of Central Arizona Project (CAP) municipal and industrial (M&I) subcontract entitlements. This policy statement applies to proposed transfers involving CAP allocations that were originally made for M&I purposes to non-Indian subcontractors. This policy is limited to proposed transfers with a term of more than one year, and to transfers within the threecounty service area of the Central Arizona Water Conservation District (CAWCD). This service area includes portions of Maricopa, Pinal and Pima counties, and most of the Phoenix, Pinal and Tucson Active Management Areas (AMAs).

In order to receive an initial allocation of CAP water for M&I purposes, M&I entities entered into CAP subcontracts with the CAWCD and the United States Secretary of the Interior (Secretary). Under the terms of these subcontracts, if a subcontractor proposes to transfer its CAP subcontract entitlement, the subcontractor must obtain the prior written approval of both the CAWCD and the Secretary. State law also requires that the subcontractor “cooperate, confer with and obtain the advice of the director” of the Department for a proposed CAP subcontract or a proposed transfer of a CAP subcontract entitlement. A.R.S. § 45-107(D). After review, the Director makes a recommendation to the Secretary regarding the proposed subcontract or transfer. This policy addresses the process for complying with state law when an M&I subcontractor proposes to transfer a CAP subcontract entitlement.

For the purposes of this policy, the term “transfer” means the assignment, conveyance, or relinquishment of a CAP subcontract entitlement. These terms are defined as follows:

(a) A proposed transfer is considered an assignment when a CAP M&I subcontractor proposes to transfer all or a portion of its CAP subcontract entitlement to a successor in interest that will serve the same CAP subcontract service area.

(b) A proposed transfer is considered a conveyance when a CAP M&I subcontractor proposes to transfer all or a portion of its CAP subcontract entitlement to: (1) a replenishment district that will use the CAP subcontract entitlement for replenishment purposes, (2) another entity that is not a successor in interest, such as a county water augmentation authority, that will use the CAP water to directly serve the same CAP subcontract service area, or (3) another entity that will use the CAP water outside the transferring entity’s CAP subcontract service area. A replenishment district includes the Central Arizona Groundwater Replenishment District (CAGRMD), which is a division of the CAWCD that is responsible for replenishing
groundwater pursuant to A.R.S. § 48-3771 et seq. A county water augmentation authority is an authority established pursuant to A.R.S. § 45-1901 et seq.

(c) A proposed transfer is considered a relinquishment when a CAP subcontractor proposes to terminate its CAP M&I subcontract without an assignment or a conveyance agreement. This policy statement sets forth the Department’s process for reviewing and evaluating these types of proposed transfers.

B. State’s Interests.

Because the transfer of a CAP subcontract entitlement may result in a redistribution of the state’s water supply, the state has an interest in assuring that transfers are consistent with the intent of the original allocation of CAP water, which was made by the Secretary upon recommendation of the Director. The intent of the original allocations was to reduce or eliminate groundwater overdraft, thereby ensuring the availability of water for the future growth and development planned by counties, cities and towns in central Arizona. CAP water is a major, and sometimes the only, renewable source of water supply for many urban and industrial water demands in central Arizona. Although growth and water use patterns may change during the term of the CAP subcontract, the certainty that water supplies will be available to specific areas helps to ensure that local and regional development will be consistent with long-range plans. Explicit policy and procedures are necessary to assure adequate and consistent evaluations of proposed transfers of CAP subcontract entitlements.

C. Statutory Responsibilities.

The Director is generally responsible for formulating plans and programs for the development, management, conservation and use of surface water and groundwater. A.R.S. § 45-105. The Director also has specific statutory authority and responsibility to “consult, advise and cooperate with the Secretary of the Interior of the United States” regarding allocations of Colorado River water, including proposed transfers of those allocations. A.R.S. § 45-107(A). Consistent with the Director’s responsibilities, entities that contemplate transferring their CAP subcontract entitlements are required to cooperate, confer and obtain the advice of the Director, and to submit relevant documents for the Director’s review. A.R.S. § 45-107(D) states as follows:

Individuals, irrigation districts, corporations, state departments, agencies, boards, commissions and political subdivisions of the state shall cooperate, confer with and obtain the advice of the director as to those negotiations, contracts and subcontracts described in subsection C that affect the allocation and use of main stream Colorado river water or the allocation and use of Colorado river water delivered through the central Arizona project. For a proposed contract or subcontract or a proposed amendment of a contract or subcontract that will result in a transfer of an allocation or entitlement of Colorado river water, including central Arizona project water, from a non-Indian Arizona contractor or subcontractor for a term of more than one year, the obligation to cooperate, confer with and obtain the advice of the director shall include the obligation to submit to the director for review the proposed contract or subcontract or the proposed amendment, and all related exhibits and agreements, prior to its execution by the contractor or subcontractor.
After review, the Director makes recommendations to the Secretary regarding the redistribution of the CAP water, which the Secretary fully considers. The purpose of this policy is to describe the process for obtaining the Director’s review of, and recommendation on, proposed transfers of CAP subcontract entitlements.

D. General Description of Process.

This policy statement describes the Water Management Objectives, Review Criteria, Decision Guidelines and review and public notice process that the Director will use to evaluate proposed transfers of CAP subcontract entitlements. The Director will review all proposed transfers for consistency with the Water Management Objectives and Review Criteria, which are described in Sections II and III. If two or more entities satisfy the Water Management Objectives and Review Criteria and request the same CAP subcontract entitlement being proposed for transfer, the Director will make a recommendation using the Decision Guidelines described in Section IV. As required by the review and public notice process described in Section V, the transferring and receiving entity must send a written request for review to the Department and must submit supporting documentation. Except for assignments of CAP subcontract entitlements, the Department will provide for, and the Director will consider, public comment regarding the proposed transfer.

II. Water Management Objectives

The criteria for evaluating proposed CAP transfers are based on several Water Management Objectives, which the Department will use to evaluate each proposed transfer. The Water Management Objectives for CAP transfers are:

- To promote transfers of CAP subcontract entitlements that result in the use of CAP water for the benefit of the transferring entity’s CAP subcontract service area; or,

- To minimize third party impacts resulting from groundwater pumping by the transferring entity that may occur as a result of the conveyance of a CAP subcontract entitlement; or,

- To promote conveyances of CAP subcontract entitlements that benefit areas outside of the transferring entity’s CAP subcontract service area through either (a) near term and direct use of CAP water by a receiving entity to meet existing groundwater demands, or (b) replenishment by a replenishment district to meet the replenishment obligation of the transferring entity or member lands within the transferring entity’s service area; or,

- To promote conveyances of CAP subcontract entitlements that benefit areas outside of the transferring entity’s CAP subcontract service area through future use of CAP water by a receiving entity, or future use of CAP water by a replenishment district to replenish groundwater; and,

- To promote the management goals of the AMAs (See A.R.S. § 45-562) within the three-county CAWCD service area; and,
• To minimize known environmental, social and economic impacts, that may occur as a result of the transfer of a CAP subcontract; and,

• To ensure that all entities wishing to obtain a CAP allocation demonstrate adequate financial capability to pay costs associated with CAP water use; and,

• To ensure that existing CAP M&I allocations remain available for M&I purposes in the future.

III. Review Criteria

Proposals to transfer CAP subcontract entitlements must be consistent with the Water Management Objectives described above to receive a favorable recommendation from the Director. To determine consistency with these objectives, the Department will evaluate each transfer using the following Review Criteria.

A. Benefits to Transferring Entity’s CAP Subcontract Service Area.

This policy favors the transfers of CAP subcontract entitlements that benefit the transferring entity’s CAP subcontract service area. This objective may be satisfied through an assignment to a successor in interest. If the proposed transfer does not involve an assignment of a CAP subcontract entitlement to a successor in interest, the Department will consider either: (a) a conveyance to a county water augmentation authority that will use the CAP water to directly serve the CAP subcontract service area of the transferring entity, or (b) a conveyance to a replenishment district to replenish groundwater in the area of impact of the transferring entity’s groundwater withdrawals.

B. Minimizing Third Party Impacts.

This policy next favors minimizing any known third party impacts resulting from groundwater pumping by the transferring entity. If a transferring entity intends to meet its water demands by pumping groundwater after the CAP subcontract entitlement is transferred, the Department will evaluate groundwater conditions by analyzing future groundwater level declines and water availability for the transferring entity, and the impact on an entity that requests all or a portion of the CAP subcontract entitlement. The Department may recommend that all or a portion of a CAP subcontract entitlement be conveyed to a requesting entity to mitigate the impacts resulting from the transfer of the entitlement. The recommended allocation will be limited to the average annual loss of groundwater that may have been recoverable by the requesting entity.

C. Near Term and Direct Use of CAP Water, and Replenishment.

This policy next favors conveyances of CAP subcontract entitlements that benefit areas outside of the transferring entity’s CAP subcontract service area through either: (1) near term and direct use by the receiving entity to meet existing groundwater demands, or (2) replenishment by a replenishment district to satisfy the replenishment obligation of the transferring entity or member lands within the transferring entity’s service area by replenishing groundwater outside the area of impact of the transferring entity’s groundwater withdrawals.
Direct use means either: (a) the direct delivery of CAP water, or (b) the storage of water at a groundwater savings facility or underground storage facility and the recovery of the CAP water on an annual basis within the area of impact of the stored water. Storage of CAP water at a groundwater savings facility or an underground storage facility for long-term storage credits will not be considered direct use of CAP water.

D. Future Use of CAP Water, and Replenishment.

This policy next favors conveyances of CAP subcontract entitlements that benefit areas outside of the transferring entity’s CAP subcontract service area through future use by the receiving entity, other than a replenishment district, first at a date prior to the year 2035, and then in the year 2035. Next, the Department will consider conveyances to a replenishment district that will use the CAP water to replenish groundwater in the year 2035.

E. AMA Goals.

All proposed transfers must promote the management goals of the AMAs within the three-county CAWCD service area. Most of the Phoenix, Pinal and Tucson AMAs are located within the three-county CAWCD service area. Generally, the management goals for these AMAs are intended to prevent or reduce the overdraft of groundwater within each AMA, which was the intent of the Director’s original CAP allocation recommendations.

F. Environmental, Economic, or Social Impacts.

The Department will evaluate any known adverse impacts associated with proposed transfers. Loss of CAP water to an M&I subcontractor may exacerbate local groundwater depletion and any attendant environmental problems. A list of potential impacts caused by groundwater declines includes, but is not limited to:

- Costs incurred by third parties due to groundwater declines and loss of groundwater supplies.
- Migration of groundwater contamination.
- Moratoriums on development due to lack of sufficient water supplies.
- Land subsidence.
- Interference with recovery of stored water.
- Loss of important natural areas.

The Department’s recommendation may be conditioned upon mitigation of these impacts.

G. Ability to Pay.

Stable, financially secure M&I entities with adequate water supplies are in the best water management interests of the state. For all proposed transfers, the receiving entities must demonstrate the ability and willingness to pay all costs associated with CAP water use including subcontract costs for the life of the subcontract; construction costs of all necessary infrastructure, treatment and distribution systems to deliver CAP water; and any subcontract holding costs incurred by the transferring entity as determined by the CAWCD.
H. Future Availability of CAP M&I Allocations.

The Secretary made the original allocations of CAP water based upon the recommendation of the Director, who took into consideration the availability of water for future growth and development in the three-county CAWCD service area through the reduction or elimination of groundwater overdraft. When a subcontractor within the three-county CAWCD service area no longer wishes to hold a CAP M&I subcontract, the state has an interest in ensuring that the CAP subcontract entitlement remains available for future use within the three-county CAWCD service area by another CAP M&I subcontractor.

IV. Decision Guidelines

If two or more entities satisfy the Water Management Objectives and Review Criteria stated above, and they request the same CAP subcontract entitlement proposed for transfer, the Director will use the guidelines set forth below. These guidelines establish priorities based on the Water Management Objectives and Review Criteria of this policy. The Department may recommend that a CAP subcontract entitlement be transferred on a pro rata basis between entities with the same priority.

The Department will first consider interested recipients that are located within the same AMA as the transferring entity. Next, the Department will evaluate interested recipients in the other two AMAs in CAWCD’s three-county service area. If a CAP M&I subcontractor located within CAWCD’s three-county service area, but not within an AMA, proposes to transfer its CAP subcontract entitlement, the Department will consider interested recipients from all three AMAs within CAWCD’s three-county service area.

1. First priority will be recommended to an entity that is the successor in interest to the transferring entity, or that can provide sufficient evidence that it will become the successor in interest to the transferring entity in the near future, and that will provide water to the same CAP subcontract service area.

2. Second priority will be recommended to either: (a) a replenishment district that will use the CAP water to replenish groundwater within the area of impact of groundwater withdrawals of the transferring entity, or (b) a county water augmentation authority that will use the CAP water to directly serve the transferring entity’s CAP subcontract service area.

3. Third priority will be recommended to an entity that demonstrates adverse impacts on its ability to meet its water demands due to groundwater withdrawals by the transferring entity as a result of the transfer of a CAP subcontract entitlement.

4. Fourth priority will be recommended to either: (a) an entity outside the transferring entity’s CAP subcontract service area that will directly use the CAP water in the near term to meet its existing groundwater demands, or (b) a replenishment district that will use the CAP water to satisfy a replenishment obligation of the transferring entity or member lands within the transferring entity’s service area by replenishing groundwater outside of the area of impact of the transferring entity’s groundwater withdrawals.
5. Fifth priority will be recommended to an entity, other than a replenishment district, that demonstrates the need for the CAP water to meet water demands in the future at a date prior to the year 2035.

6. Sixth priority will be recommended to an entity, other than a replenishment district, that demonstrates the need for CAP water to meet water demands in the year 2035.

7. Seventh priority will be recommended to a replenishment district to replenish groundwater in the year 2035.

V. Review and Public Notice Process

All proposed transfers will be subject to the Water Management Objectives, Review Criteria and Decision Guidelines set forth above. However, as described below, the Department will follow a different review and public notice process for each type of transfer.

A. Assignments.

If a CAP M&I subcontractor proposes to assign its CAP subcontract entitlement, both the transferring entity and the receiving entity shall submit a written request for review to the Department together with the assignment agreement and all related documentation. The Department will provide to the transferring and receiving entities written comments requesting any additional information or documentation that may be required. Because the CAP subcontract entitlement will be used to serve the same CAP subcontract service area, the proposed assignment will not be subject to public review and comment. After receipt of any required information or documentation, the Director will issue a recommendation to the Secretary, with a copy to CAWCD, regarding the proposed assignment.

B. Conveyances.

If a CAP M&I subcontractor proposes to convey its CAP subcontract entitlement to another entity, both the transferring and the receiving entities shall submit a written request to the Department together with the conveyance agreement and all related documentation. Both the receiving entity and the transferring entity must submit water supply development plans that demonstrate how the proposed transfer will meet the Water Management Objectives, Review Criteria and Decision Guidelines stated above in Sections II, III, and IV. At a minimum, these plans shall include approximate quantities of water available to the respective service areas to meet demands, the sources of water, how the CAP water will be used by the receiving entity, and information regarding costs and time frames for implementing the plans. After receipt of submitted documentation, the Department will provide to the transferring and receiving entities written comments requesting any additional information or documentation that may be required. After receipt of all required information, the Department will advertise the proposed conveyance once a week for two consecutive weeks in a newspaper of general circulation in the three-county CAWCD service area. The Department will concurrently advertise the proposed conveyance on its website at www.azwater.gov. The Department will send notice of a proposed conveyance by mail to all persons on the Department’s mailing list of entities that have requested notification, as well as to all current CAP M&I subcontractors. The Department will accept public comment on the proposed conveyance for 30 days after the second
newspaper advertisement. If, during the public comment period, another entity requests part or all of a CAP subcontract entitlement involved in a proposed conveyance, the requesting entity must demonstrate that it has the same or a higher priority for the CAP subcontract entitlement.

After the close of the public comment period, the Department will provide to the transferring and receiving entities, and any requesting entity, additional written comments requesting any information or documentation that may be required as a result of public comment and review. After the Department receives any additional information and documentation that may be required, the Director will issue a recommendation to the Secretary, with a copy to CAWCD, regarding the proposed conveyance.

C. Relinquishments.

If a CAP M&I subcontractor proposes to relinquish its CAP subcontract entitlement, but has not entered into an assignment or conveyance agreement, the Director will advertise, after consultation with CAWCD, an "offer to transfer" in a newspaper of general circulation in the three-county CAWCD service area once a week for two consecutive weeks. The Department will concurrently advertise the offer to transfer on its website at www.azwater.gov. The Department will send a notice of any offers to transfer by mail to all persons on the Department's mailing list of entities that have requested notification, as well as to all current CAP M&I subcontractors. Requests for CAP subcontracts and general public comment must be submitted to the Department within 30 days of the second newspaper advertisement.

The Department will review requests for subcontract entitlements pursuant to the Water Management Objectives, Review Criteria and Decision Guidelines in Sections II, III and IV of this policy. After the close of the request and public comment period, the Department will provide to the requesting entities written comment requesting any additional information or documentation that may be required. After receipt of any required information and documentation, the Director will issue a recommendation to the Secretary, with a copy to the CAWCD, regarding a request for a CAP subcontract entitlement.

The Director may modify or revoke this policy at any time.

EFFECTIVE DATE:
February 27, 2006

Herbert R. Guenther
Director
Arizona Department of Water Resources
To: All Colorado River Water Users and Other Interested Parties

RE: Policy and Procedures for Transferring an Entitlement of Lower Basin Colorado River Water Within the State of Arizona

Dear Colorado River Water Users and Interested Parties;

Enclosed is a copy of the Department’s adopted Colorado River transfer policy and procedures. This substantive policy governs the Department’s process for evaluating proposed transfers; including conveyances, leases and assignments, of Lower Basin Colorado River entitlements.

During the spring of 2000, the Department initiated the development of this policy by conducting public workshops in Yuma, La Paz and Mohave Counties. The purpose of these meetings was to acquire public input prior to drafting the policy.

In October 2001, the draft policy was made available to Colorado River water users and other interested parties for public review and comment. A second public comment period was conducted during the summer of 2003 for several rural, off-river Arizona communities. All public comments submitted during both comment periods were evaluated and, as a result of many of the issues and concerns that were presented, several changes were made to the original draft document.

If you have any questions or concerns regarding the attached policy, please direct them to Mr. Tom Carr or Ms. Tricia McCraw at (602) 417-2400, extensions 7171 or 7266, respectively.

Sincerely,

Herbert R. Guenther
Director

Enclosure
ARIZONA DEPARTMENT OF WATER RESOURCES
500 North Third Street, Phoenix, Arizona 85004
Telephone 602 417-2410
Fax 602 417-2415

ARIZONA DEPARTMENT OF WATER RESOURCES

SUBSTANTIVE POLICY STATEMENT

Policy and Procedures for Transferring an Entitlement of Colorado River Water

This substantive policy statement is advisory only. A substantive policy statement does not include internal procedural documents that only affect the internal procedures of the agency and does not impose additional requirements or penalties on regulated parties or include confidential information or rules made in accordance with the Arizona administrative procedure act. If you believe that this substantive policy statement does impose additional requirements or penalties on regulated parties, you may petition the agency under Arizona Revised Statutes § 41-1033 for a review of the statement.
Policy and Procedures for Transferring an Entitlement of Colorado River Water

TABLE OF CONTENTS

I. INTRODUCTION .................................................................................................................. 3
   DEFINITION OF WATER ENTITLEMENTS ...................................................................... 3
   FEDERAL AND STATE AUTHORITIES ............................................................................. 3
   PURPOSE OF POLICY ........................................................................................................ 4

II. SCOPE OF POLICY ........................................................................................................... 4
   GENERAL APPLICATION ................................................................................................... 4
   ENTITLEMENT TRANSFER ACTIONS ............................................................................. 4
      Conveyance of an Entitlement ....................................................................................... 5
      Lease of an Entitlement ................................................................................................. 5
      Assignment of an Entitlement ......................................................................................... 5
   QUANTIFICATION OF AN ENTITLEMENT AVAILABLE FOR CONVEYANCE OR LEASE .... 5

III. CONSULTATION PROCESS ............................................................................................ 6
   REQUEST FOR CONSULTATION .................................................................................... 6
   WATER MANAGEMENT PLANS ..................................................................................... 6
   OTHER CONSIDERATIONS .............................................................................................. 7
      Beneficial Use and Water Demand ................................................................................. 7
      1944 Mexican Treaty Obligations .................................................................................. 8
   PUBLIC NOTICE PROCESS ............................................................................................ 8
      Conveyances and Leases ............................................................................................... 8
      Assignments .................................................................................................................. 8

IV. EFFECTIVE DATE ............................................................................................................ 9
I. INTRODUCTION

This statement of policy applies to the transfer by non-federal Arizona contractors of mainstream Colorado River entitlements allocated for irrigation and municipal and industrial (M&I) purposes within the State of Arizona.

Definition of Water Entitlements

The right or authorization to beneficially use Colorado River water is defined as an entitlement. Entitlements held by non-federal Arizona Colorado River water users are created by decree of the United States Supreme Court (Court) or through a contract with the Secretary of the Interior (Secretary) under Section 5 of the Boulder Canyon Project Act (BCPA) of December 21, 1928.

Federal and State Authorities

The BCPA federalized the administration of Colorado River water rights by requiring a contract with the Secretary to use Colorado River water under either Section 4 or 5 of the Act. A contractual right, issued under the authority of the BCPA, is a permanent entitlement administered by the U.S. Bureau of Reclamation (Reclamation).

Pursuant to A.R.S. § 45-105, the Director of the Arizona Department of Water Resources (Department) is generally responsible for formulating plans and programs for the development, management, conservation and use of surface water and groundwater throughout the state. Consistent with this responsibility, under A.R.S. § 45-107, entities which contemplate the transfer of their entitlements are required to cooperate, confer and obtain the advice of the Director.

In 1994, the state legislature reemphasized the importance of the role of the Director in the distribution of Colorado River water within the state. The specific statutory mandate in A.R.S. § 45-107(D) states:

Individuals, irrigation districts, corporations, state departments, agencies, boards, commissions and political subdivisions of the state shall cooperate, confer with and obtain the advice of the director as to those negotiations, contracts and subcontracts described in subsection C that affect the allocation and use of main stream Colorado river water or the allocation and use of Colorado river water delivered through the central Arizona project. For a proposed contract or subcontract or a proposed amendment of a contract or subcontract that will result in a transfer of an allocation or entitlement of Colorado river water, including central Arizona project water, from a non-Indian Arizona contractor or subcontractor for a term of more than one year, the obligation to cooperate, confer with and obtain the advice of the director shall include the obligation to submit to the director for review the proposed contract or subcontract or the proposed amendment, and all related exhibits and agreements, prior to its execution by the contractor or subcontractor. (Emphasis added)

Pursuant to the aforementioned statutory responsibility and authority, the Director will review any proposed transfer by a non-federal Arizona contractor of a Colorado River entitlement for the purpose of determining the potential impacts caused by the redistribution of water. After review, the Director will recommend to the Secretary the appropriate redistribution of mainstream Colorado River water supplies consistent with the policies and laws of the state. The importance of the
Director’s review is underscored by the fact that mainstream water is, in most cases, the only dependable supply of water for urban, industrial and agricultural water users located within the accounting surface or floodplain of the Colorado River. Therefore, due to the importance of the distribution of Colorado River water to the welfare and economy of the state, explicit policy and procedures are necessary to ensure adequate and consistent evaluation of any proposed transfer of a Colorado River entitlement.

Purpose of Policy

The purposes of this policy are: 1) to establish a procedure to obtain the advice and review of the Director; and 2) to describe the criteria and analysis the Department will utilize to evaluate proposed transfers, including conveyances, leases or assignments, of mainstream Colorado River water.

The Director’s advice to and consultation with the Secretary will be consistent with these policies and procedures.

II. SCOPE OF POLICY

General Application

This policy applies to the transfer of a Colorado River entitlement within the State of Arizona for a period of more than one year. It does not pertain to transfer actions involving the export of water to another state or to Mexico.

It is limited to non-federal Arizona entities or individuals holding a valid Colorado River water delivery contract with the Secretary. It applies to all priorities of entitlements held by this category of Colorado River water users (see Appendix A for definitions of priorities).

With the potential exception of proposed entitlement assignments, the Department will not recommend the conveyance or lease of any entitlement to unused or surplus Colorado River water apportionment. If such entitlements are not needed by a contractor, the Department will recommend that the unneeded contract be terminated and, if necessary, a new one created.

Subcontract, lease or water use conversion actions within an existing contract service area that are conducted in accordance with an existing Colorado River water delivery contract are not subject to this policy.

Entitlement Transfer Actions

Conveyances, leases and assignments are separate types of entitlement transfer actions. The review and consultation process with the Director varies depending on the type of transfer action that is requested and the type of entitlement that is involved. The specific entitlement transfer actions are described below.
**Conveyance of an Entitlement**

An entitlement transfer action is considered a conveyance when a Colorado River contractor proposes to permanently transfer all or a portion of its entitlement to another entity that will not serve the same contract service area and/or proposes to change the type of water use.

**Lease of an Entitlement**

A lease is a temporary transfer action involving all or a portion of a Colorado River entitlement. The purpose for leasing an entitlement is to provide a temporary water supply to another party located outside of the existing contract service area without the contractor permanently relinquishing or abandoning the entitlement. Generally, leases are inappropriate for permanent municipal and industrial water uses that cannot be interrupted or discontinued. If a water entitlement lease is proposed for a period of more than five years, the applicant for the lease action must demonstrate that the existing water use will not be abandoned and explain why a long-term lease is necessary for the intended new use. The Department will review the applicant’s justification for a long-term lease and may recommend a lease for more than five years duration. However, if a long-term water supply is needed, the parties should consider a permanent conveyance.

**Assignment of an Entitlement**

An entitlement transfer action is considered an assignment when a Colorado River contractor proposes to permanently convey all or a portion of its entitlement to another entity that will serve the same type of use within the same contract service area.

**Quantification of an Entitlement Available for Conveyance or Lease**

Contract assignment actions do not involve a change in type of use or a change in the place of use. As such, assignment actions are not subject to the following limitations that may be applied to the conveyance or lease of an entitlement.

The amount of water available for conveyance or lease will be limited to the quantity of water that will result in a consumptive use that is no greater than the maximum amount of the entitlement. During the review of an application to transfer, the Director will consider several factors. These factors include the past and reasonable future quantity of consumptive use of water associated with the entitlement, potential negative impacts to the water supplies of other Colorado River entitlement holders, water quality impacts related to return flows and other pertinent impacts that could occur as a result of the proposed transfer.

Within Arizona, the amount of water associated with a Colorado River entitlement is limited to a specific maximum amount that may be consumptively used or diverted on an annual basis. In a few instances, entitlements are limited to the amount of water that may be beneficially used.

A consumptive use entitlement limits the quantity of water that may be consumed by an entitlement holder. Consumptive use is the amount of water diverted less the amount that is returned to the mainstream by the entitlement holder. The amount of a consumptive use entitlement that may be available for conveyance or lease will be limited to the maximum amount of the entitlement.
A diversion entitlement is limited by the quantity of water that may be diverted by the entitlement holder. Any return flow that results from the use is credited to Arizona’s 2.8 million acre-feet allocation and is available to other water users. A proposed conveyance or lease must not negatively impact the quantity of water available to other entitlement holders. If the new use will result in the same return flow to the mainstream as the retired use, the amount of entitlement available for conveyance or lease for the new use will be limited to the maximum amount of the diversion entitlement. If the proposed new use will result in reduced return flow, the amount of water that will be available for conveyance or lease will be limited to the consumptive use associated with the maximum amount of the diversion entitlement.

A beneficial use entitlement is limited by the quantity of water that may be beneficially used by an entitlement holder for a specific type of use in a specific place of use. To determine how much water may be available for conveyance or lease with this type of entitlement, the amount of water that is beneficially used on an annual basis must be quantified as an annual consumptive use. The consumptive use amount that may be conveyed or leased will be limited to the quantity of water that is no greater than the maximum amount of the entitlement that was consumptively used by the entitlement holder.

III. CONSULTATION PROCESS

Request for Consultation

The Director must be consulted prior to the execution of a transfer of a water delivery contract. The request for consultation with the Director must be made in writing by the entity proposing to transfer its entitlement and include contact information for the parties involved in the proposed transaction.

Water Management Plans

Each request for consultation involving the conveyance or lease of an entitlement must include a water use management plan. Development of a management plan will generally not be necessary for most proposed assignment actions. The amount of information needed for a particular assignment action will be determined upon the initiation of consultation with the Director.

The Director will use the water use management plan information to evaluate the proposed transfer action and make recommendations to the Secretary. The water use management plans will also be available for public review and comment. These plans must include, at a minimum, the following information.

For the entity transferring the entitlement:

a. A description and quantification of the proposed water use to be transferred;
b. A map of the contract area and the location of the retired water use and associated points of diversion and return;
c. A description of how the existing water use will be terminated;
d. A demonstration that the transfer will not interfere or infringe upon any vested or existing water rights within its contract service area;
e. For partial transfer of an entitlement, an explanation of all expected changes to water provider operations and deliveries to remaining customers due to the proposed transfer;
f. An explanation of how the transfer is consistent with local area ordinances, rules and regulations;
g. A description and quantification of the proposed new water use.

For the receiving entity:

h. A map showing the service area, points of diversion and points of return associated with the new use;
i. Calculations showing the amount of Colorado River water that will be diverted, consumptively used and returned to the river;
j. A demonstration of its ability to divert, convey and consumptively use water within a reasonable timeframe;
k. A demonstration that the transfer will not interfere or infringe upon any vested or existing water rights within its contract service area;
l. A list that identifies and quantifies all water supplies currently available to meet its current, committed and projected municipal and industrial (M&I) water demand;
m. An explanation showing how the conveyance is consistent with local area ordinances, rules and regulations, including those limiting the use of potable water supplies for lakes, golf courses, etc.;
n. Entities proposing to temporarily lease an entitlement must provide information describing the intent to terminate the Colorado River water use or substitute water supplies at the conclusion of the lease.

In addition to the water management plan information, the Department will need to be provided with the necessary approvals that are signed by all parties to the proposed transfer and provided with any proposed contracts or agreements, all addendum and attachments to same and all related exhibits and agreements.

Other Considerations

When considering a proposed transfer action, in addition to evaluating the required information listed above, the Department will also assess beneficial use and Mexican Treaty obligation issues.

Beneficial Use and Water Demand

The Department will not consider transfer actions for speculative purposes. Therefore, for all proposed entitlement transfer actions, the entity receiving the entitlement must demonstrate that the water will be put to beneficial use. The beneficial use may be an existing one associated with current, committed and/or projected M&I water demands or it may be a proposed new M&I use.

Applicants that do not possess the ability to immediately divert, convey and consumptively use the water will not be excluded from the application and consideration process. However, in addition to their application, they must submit a fully developed plan that describes how they will divert, convey and use the water within a reasonable timeframe.
Proposed conveyance actions will be evaluated to ensure that the transaction will not negatively impact the United States' ability to meet its 1944 Treaty obligations for delivery of Colorado River water to Mexico or to meet the Minute 242 salinity control requirement.

Public Notice Process


Conveyances and Leases

To initiate a consultation, the parties to a proposed transfer action shall submit water management plans and all other related exhibits and agreements to the Director at least one hundred fifty (150) days prior to contract execution.

After all of the necessary documents and information have been submitted, the Department will advertise the proposed conveyance or lease once per week for two (2) consecutive weeks in a newspaper of general circulation within the state. The Department will also provide a notice to the county planning and zoning department office within the county of origin. The contractor conveying its entitlement must provide notice of the proposed action to all water users within its contract service area. Notices may also be sent to a list of other interested parties. The list, which will be kept on file with the Department, will be composed of individuals and entities that wish to be advised of pending requests to initiate a Colorado River contract transfer action. All documents submitted to the Department will be made available to the public upon request.

The Department will accept public comment on the proposed transfer action for thirty (30) days following the second advertisement. Public comment will be considered during the Department's review. The Director will issue a recommendation regarding the conveyance or lease to the Secretary within sixty (60) days from the end of the public comment period, unless additional time is needed to resolve claims of negative impacts to third parties.

Some entities or individuals may claim that they will be negatively impacted if a conveyance or lease, as proposed, is approved. When potentially negative impacts are claimed, the Department will notify the entity giving up its entitlement and the receiving entity(s) about the claimed impacts. The Department will provide up to ninety (90) days for all parties to attempt to resolve or mitigate the claimed impacts and to provide information to the Secretary. If agreed upon by all parties, an extension may be requested if more time is needed to resolve outstanding issues.

As a result of negotiations, if the proposed agreement changes the distribution of water, the Department will review the revised transfer action and make a recommendation to the Secretary. If the parties cannot agree to resolve or mitigate the claimed impacts, the Department will make its recommendation independently from the parties at the end of the negotiation period.

Assignments

The parties to the assignment shall submit a request for consultation and supporting documentation to the Director at least forty-five (45) days prior to execution.
The Department will conduct an expedited review of the assignment of an entitlement. Because the allocation will be used to serve the same use within the same area, it will be presumed to be consistent with the state's water management objectives and will not be subject to public review and comment. The Director will issue a recommendation to the Secretary within thirty (30) days after all necessary documents have been submitted for review.

IV. EFFECTIVE DATE

This substantive policy statement shall become effective immediately. The Director may modify or revoke this policy at any time.

DATED this 24th day of May, 2004.

Herbert R. Guenther
Director
Arizona Department of Water Resources
APPENDIX A

First Priority
Satisfaction of Present Perfected Rights as defined and provided for in the Decree.

Second Priority
Satisfaction of Secretarial Reservations and Perfected Rights established or effective prior to September 30, 1968.

Third Priority
Satisfaction of Entitlements pursuant to contracts between the United States and water users in the State of Arizona executed on or before September 30, 1968.

Fourth Priority
Satisfaction of entitlements pursuant to: (i) contracts, Secretarial Reservations, and other arrangements between the United States and water users in the State of Arizona entered into or established subsequent to September 30, 1968, for use on Federal, State, or privately owned lands in the State of Arizona (for a total quantity of not to exceed 164,652 acre-feet of diversions annually); and (ii) Contract No. 14-06-W-245 dated December 15, 1972, as amended, between the United States and the Central Arizona Water Conservation District for the delivery of Mainstream Water for the Central Arizona Project, including use of Mainstream Water on Indian lands.

Entitlements having fourth-priority as defined in (i) and (ii) herein are coequal. Reductions in Entitlements having a fourth priority shall be borne by each Entitlement holder in the same proportion as its Entitlement, or as required by law, regulation, or Secretarial determination. If, however, a reduction-sharing agreement is entered into between two or more such authorized users, then the reduction shall be shared among the parties as provided in the agreement, subject to approval by the Contracting Officer after consultation with ADWR.

Fifth Priority
Satisfaction of Entitlements to any Unused Arizona Entitlement.

Any entity with a contract for fifth-priority water shall utilize its fifth-priority Entitlement only after the Contracting Officer has determined that Mainstream Water is available under applicable law or regulation, and the Contracting Officer provides written notification that such Mainstream Water is available in a specific year, subject to the scheduling and the reduction provisions of the contract. Reduction or elimination of the fifth-priority water use shall be determined by the Contracting Officer after consultation with ADWR, or on the basis of the contract dates, or as required by law or regulation.

Sixth Priority
Satisfaction of Entitlements to Surplus Water.

Any contractor for sixth-priority water shall utilize its sixth-priority Entitlement only after the Contracting Officer has determined that Mainstream Water is available under applicable law or regulation, and the Contracting Officer provides written notification that such Mainstream Water is available in a specific year, subject to the scheduling and reduction provisions of the contract. Reduction or elimination of the sixth-priority water use shall be as determined by the Contracting Officer or on the basis of the contract dates, or as required by law or regulation.

Excerpt from Section 7 of the Colorado River water entitlement contract between the U.S. Bureau of Reclamation and Crystal Beach Water Conservation District, Contact No. 6-07-30-W0352, November 21, 1997