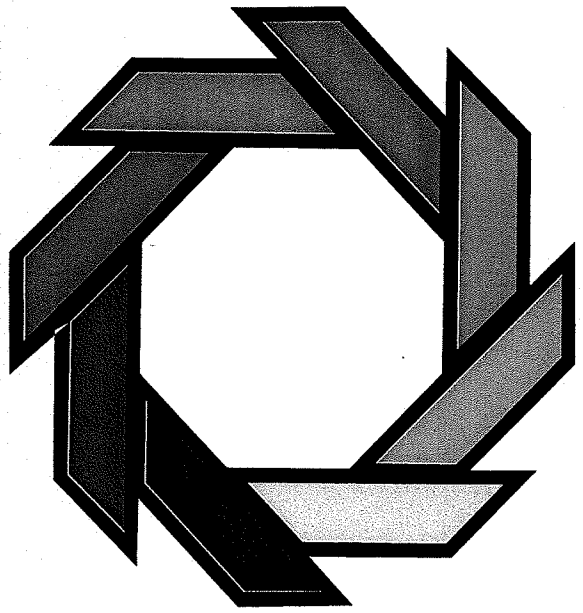
FINAL
DISCUSSION DOCUMENT

On Issues Related to
Excess Canal Capacity
and Wheeling Non-Project Water



Prepared for the CAWCD Board of Directors
by the PROJECT WHEEL 2002 Team
December 5, 2002

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EXECUTIVE SUMMARY

The primary purpose of "Project Wheel 2002" is to engage a dialogue concerning the highest and best use of excess capacity in the CAP aqueduct system. The Project Wheel team estimates that, during normal water supply years on the Colorado River, there will be about 300,000 acre-feet of excess canal capacity annually available. There are sufficient Colorado River and western Arizona groundwater supplies to fill this capacity. In short, the excess canal capacity may represent the next increment of long-term water supply available to central Arizona.

There are two fundamental questions related to this next increment of long-term water supply. The first question is what degree of control should CAWCD retain over excess canal capacity. The second question is how should excess canal capacity and, hence, access to new water supplies filling this capacity, be allocated.

Through its research and an extensive public process, the Project Wheel team has identified three perspectives to help answer these questions. The first perspective represents a "delivery agent" approach, where CAWCD dedicates all excess canal capacity to wheel non-Project water on a long-term, assured water supply basis. The second perspective represents a "water provider" approach, where CAWCD retains control over excess canal capacity and acquires new water supplies to fill that capacity. The third perspective represents a "hybrid" approach that incorporates portions from both the "delivery agent" and "water provider" models. This approach sets aside, on an interim basis, some capacity for wheeling non-Project water and some for CAWCD development and delivery of a new water supply. It should be noted that each approach would eventually require establishment of policies at the time of implementation to address such matters as water quality, rates and priorities.

PROJECT WHEEL TEAM RECOMMENDATION – HYBRID APPROACH

The team recommends the Board adopt a strategy that incorporates the hybrid approach to use and allocate excess canal capacity. The team supports a blended approach for the following reasons:

- provides flexibility to address both the delivery agent and the water provider models;
- allows CAWCD to incrementally migrate toward a long-term approach that proves to be most effective over time; and
- provides additional time to resolve the numerous complex and difficult issues associated with using excess canal capacity.

Specifically, the Project Wheel team recommends:

A. CAWCD would set aside, on an interim basis, a portion of the excess canal capacity for wheeling non-Project water.

   1. CAWCD would set aside, on an interim basis, excess canal capacity to wheel an amount, up to 38,000 acre-feet annually, of McMullen Valley groundwater held by the City of Phoenix.

   2. CAWCD would set aside, on an interim basis, excess canal capacity to wheel an amount, up to 15,000 acre-feet annually, of Planet Ranch surface water held by the City of Scottsdale.

   3. CAWCD would set aside, on an interim basis, canal capacity to wheel an amount, up to 25,000 acre-feet annually, of Pinal County groundwater held by the City of Mesa.

   4. CAWCD would set aside, on an interim basis, excess canal capacity to meet a portion of the CAGRD's current and committed replenishment obligation as of July 1, 2003. The volume of non-Project water needed to meet this obligation will be developed as part of the CAGRD's ten-year Plan of Operation. At a minimum, the CAWCD would set aside, on an interim basis, 3,460 acre-feet of excess canal capacity for the CAGRD to wheel Harquahala Valley groundwater on behalf of the City of Scottsdale.

   5. Interim set asides provided under A.1 through A.3 are subject to the following conditions:

      a. Interim set asides are non-transferable.

      b. Interim set asides shall be subject to future Board policies.

      c. Interim set asides shall be considered developed supplies for purposes of allocating any water developed pursuant to Part B. below.

   6. Other provisions related to interim set asides provided under Part A.

      a. Entities with interim set asides are eligible to participate in the new water supply described in Part B.

      b. Interim set asides provided in Part A. and allocations of the new water supply provided in Part B. are of equal priority.

      c. Short-duration, short-distance wheeling will be accommodated subject to future Board policies.

d. Future purchases of non-Project supplies will not be guaranteed an interim set aside of canal capacity.

e. Wheeling principles will be developed by January 1, 2005.

B. CAWCD would conduct an implementation study to determine if it is feasible to develop a new water supply up to a volume of 100,000 acre-feet per year.

1. CAWCD would complete the implementation study no later than January 1, 2005.
2. The volume of the new water supply would be limited to no more than 100,000 acre-feet per year.
3. The implementation study would be conducted using a thorough public participation process.
4. CAWCD would undertake the following specific actions:

   a. Determine extent of CAWCD's legal authority to acquire and develop the new water supply.

   b. Coordinate with Arizona Department of Water Resources (ADWR) to determine how to make the new water supply assured water supply eligible and how the new water supply would be allocated.

   c. Coordinate with U.S. Bureau of Reclamation (BOR) to determine how to address environmental compliance issues associated with the new water supply and contractual relationships.

   d. Determine how to address excess canal capacity availability during surplus years.

C. CAWCD would reserve allocation of the remaining excess capacity for another day.

D. CAWCD would consolidate past Board actions.

I. Introduction

On an on-going basis, CAWCD will annually divert approximately 1.5 million acre-feet during normal water supply years. CAWCD staff estimates that approximately 1.8 million acre-feet of water can be safely conveyed through the CAP system on an annual basis. This yields an available system resource of roughly 300,000 acre-feet[1] per year. There are sufficient Colorado River and western Arizona groundwater supplies to fill this capacity. The purpose of Project Wheel 2002 is to engage a dialogue concerning the highest and best use of excess capacity in the CAP aqueduct system.

There are two fundamental questions related to this next increment of long-term water supply. The first question is what degree of control should CAWCD retain over its excess canal capacity. The second question is how should excess canal capacity and, hence, access to new water supplies filling this capacity, be allocated.

Through its research and an extensive public process, the Project Wheel team has identified three perspectives to help answer these questions. The first perspective represents a "delivery agent" approach, where CAWCD dedicates all excess capacity to wheel non-Project water on a long-term, assured water supply basis. The second perspective represents a "water provider" approach, where CAWCD retains control over excess capacity and acquires new water supplies to fill that capacity. The third perspective represents a "hybrid" approach that incorporates portions from both the "delivery agent" and "water provider" approaches. Each approach would eventually require establishment of policies at the time of implementation to address such matters as water quality, rates and priorities.

In this Discussion Document, the Project Wheel Team recommends a hybrid approach that acknowledges existing water ranches, sets aside capacity for the CAGRD, explores the development of a new water supply and saves the majority of the excess canal capacity for dispensation at a later date.

CAWCD has a responsibility to manage excess canal capacity for the benefit of the customers and constituents residing in the CAP service area. These customers and constituents vary from being long-term water service contractors to individual taxpayers, to member lands in the Central Arizona Groundwater Replenishment District (CAGRD). CAWCD also has a responsibility to manage this resource in a manner that supports the water management goals of the state. It is within this context that the CAWCD Board will ultimately make its decisions.

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[1] See page 13 "Briefing Paper on Issues Related to Excess Canal Capacity and Wheeling Non-Project Water" dated May 23, 2002.

Since late March of 2002, the Project Wheel team has conducted a needs assessment survey, a review of industry practices, two Board Special Study Session, three public meetings to solicit input from customers and other stakeholders, as well as presenting information at numerous Board meetings. Additionally, the Project Wheel team has prepared two significant work products. The first work product, an issue briefing booklet[2], was distributed at the May 23, 2002 Board Special Study Session. The second work product is this Discussion Document, revised and distributed three times. The Project Wheel team has met weekly for nearly thirty weeks. All team meetings are summarized in meeting highlights as are all public meetings including the May 23 and September 19 Board Special Study Sessions.

In this Discussion Document, the focus of the debate is pointed toward the fundamental policy question at the center of wheeling non-Project supplies. This document further provides a review and analysis of how other institutions address the use of excess canal capacity and, in addition, it analyzes the effect of past Board actions. Finally, this document recommends a proposed strategy for using excess canal capacity and organizing past Board actions into a single comprehensive policy.

II. Focus of the Debate on the Fundamental Issue

In April of 2002, the Project Wheel team conducted a needs assessment survey. This survey shows that the demand for using excess canal capacity ranges from approximately 300,000 to 630,000 acre-feet[3]. Wheeling non-Project supplies through the CAP on a first come, first serve basis is one method of allocating excess canal capacity[4]. If taken, this approach at its extreme would result in virtually all excess canal capacity being used to wheel non-Project supplies held by the third parties identified in the survey. Our work would be finished.

Historically, discussions concerning the use of excess canal capacity have focused on transporting non-Project water for third parties. Over time, however, CAWCD has developed policies[5] that support a broader use of system resources than just wheeling non-Project supplies. These policies focus on:

- protecting Project water deliveries;
- controlling costs for Project water customers;
- delivering all Colorado River water available to CAP;

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[2] "Briefing Paper on Issues Related to Excess Canal Capacity and Wheeling Non-Project Water" dated May 23, 2002.

[3] See page 4 of 4 in the Summary Report of Volumes Requested for Wheeling starting on page 39 of "Briefing Paper on Issues Related to Excess Canal Capacity and Wheeling Non-Project Water" dated May 23, 2002.

[4] See page 36 of "Briefing Paper on Issues Related to Excess Canal Capacity and Wheeling Non-Project Water".

[5] Sources: 1983 position statement relative to transportation of Non-Project water, the 1988 statement of policies and principles regarding the use of CAP facilities to facilitate Indian water rights settlements, 9-12-88 Discussion Document and CAP's mission, vision and business strategies.

- facilitating the use of the CAP system to wheel non-Project water for third parties, to the extent that CAP customers and CAP facilities are not adversely impacted; and
- meeting the needs and responsibilities of CAWCD to effectively manage the CAGRD.

As a result of the Industry Brainstorming Session, comments from the Board at the May 23 Special Study Session and internal debate, the Project Wheel team realized that before CAWCD can decide how to address the issues pertaining to wheeling non-Project water, the fundamental question of what is the highest and best use of excess capacity in the CAP aqueduct system must first be addressed. Excess canal capacity may represent the next increment of long-term water supply available to central Arizona. To this end, excess canal capacity in the CAP is a vital resource and a valuable asset that CAWCD holds in trust for the water users of central Arizona.

As previously indicated, there are two fundamental questions related to this resource or asset. The first is what degree of control should CAWCD retain over excess capacity. Specifically, should CAWCD relinquish a certain amount of control and dedicate capacity to wheel non-Project supplies on a long-term, assured water supply basis? Or, should CAWCD retain control of this capacity and acquire and develop a new long-term water supply? The second question is how should excess canal capacity and, closely tied to this, the supply source that fills that capacity, be allocated.

To aid in answering the fundamental question of how excess canal capacity should be used, the Project Wheel team developed a continuum that is presented on the following page. The continuum was presented to the Board in the form of a memo at the June 20 Regular Board meeting. It was also presented to customers and other interested parties at the Industry Focus Group Session held on June 27. At the far left side of the continuum, a delivery agent model is presented. At the far right side of the continuum, a water provider model is presented. In between the two ends of the continuum, a hybrid approach is presented.

Under the delivery agent model, a market approach to using excess canal capacity is assumed. This approach would allow parties to compete for capacity most likely favoring those that secure non-Project water sooner than others. CAP would operate the system to accommodate the different supplies to meet contractual obligations with various parties. Each contract could be unique to each circumstance or condition. Wheeling parties would obtain their own environmental clearances. Water providers seeking an assured water supply would package their supplies, on a case-by-case basis, to accommodate CAP delivery constraints and ADWR rules. To the extent firming is needed, individual parties would firm their own water supplies. Finally, costs and charges would be

Perspective Continuum for Project Wheel 2002

Delivery Agent Model <==========> **Water Provider Model**

Issue Category	100% of excess capacity reserved for wheeling third party water.		Hybrid approach with some excess capacity reserved for wheeling third party water and some capacity managed by CAP for firming and augmenting long-term supplies.		100% of excess capacity managed by CAP for firming and augmenting long-term supplies.	
	Pros	Cons	Pros	Cons	Pros	Cons
Existing Ranches [1.]	Existing ranches may be poised to obtain excess capacity.	Parties without ranches today may be disadvantaged or may be encouraged to acquire a ranch.	Existing ranches may still have some advantage over others to obtain excess capacity.	Parties without ranches today may be disadvantaged or may be encouraged to acquire a ranch.	Creates equal opportunity for municipal providers.	Raises questions about what entity will decide who gets additional supplies; may change how existing water ranches will be used.
CAGRD	As a third party, CAGRD can indpendently meet its replenishment obligations.	CAGRD needs may compete with needs of others.	Depending on range reserved for existing ranches, could leave sufficient capacity to allow CAGRD to meet some of its obligations.	CAGRD needs may compete with needs of others.	Allows CAP to have more security that CAGRD needs will be met.	CAGRD needs may compete with needs of others.
NIA Water	Third parties could firm their own NIA water.	May preclude firming NIA water by AWBA or CAP.	Depending on range reserved for existing ranches, could leave sufficient capacity to firm NIA water.		Leaves sufficient capacity to firm NIA water.	
Assured Water Supply		May be more difficult to obtain AWS status for non-Project supplies on a case by case basis.	May be easier to obtain AWS status for that portion of capacity not subject to wheeling contracts, because the supply might be considered the same as CAP M&I subcontracts.	For that portion of the capacity under wheeling contract, may be more difficult to obtain AWS status; creates two different systems for obtaining AWS status.	Could make all or a portion of supplies delivered using excess canal capacity AWS worthy, because the supply might be considered the same as CAP M&I subcontracts.	Puts CAP into the AWS business.
Costs	Specific costs associated with using excess canal capacity to wheel third party water can be placed on the third party.	Third party water may have to pay cost of service.	Specific costs associated with using excess canal capacity to wheel third party water can be placed on the third party; increased costs associated with the remaining capacity can be generally shared by the user class.	Overall operating costs may increase; two different cost structures will have to be developed.	Increased operational costs can be generally shared by the user class; or new supplies could be blended with existing supplies to create a uniform rate among customer classes.	Overall operating costs may increase.
Decision Certainty	Winners and losers could be decided sooner.	Could result in a resource being committed prematurely.	Uncertainty about transporting supplies would be resolved for winners.		Postpones decision on winners and losers until another day when more is known.	Continues the existing uncertainty.
Operational Flexibility		May require CAP to agree to specific delivery conditions that could limit operational flexibility.		For wheeled supplies, may require CAP to agree to specific delivery conditions that could limit operational flexibility; for the remaining supply, CAP may have to change operations generally.	CAP could more effectively balance supplies and demands and potentially operate at a lower per unit cost.	CAP might have to change operations generally.
Environmental Clearances	Could allow CAP to place responsibility for environmental clearances on third party.	Individual environmental clearances could create consistency issues and take longer to obtain.		Creates multiple environmental clearance processes that could conflict with one another.	Creates an opportunity to establish a comprehensive environmental clearance process with BOR.	May put CAP at the center of environmental clearance work.

1. Existing ranches include ranches that can be legally transferred today (i.e. City of Phoenix McMullen Valley, City of Mesa Pinal County Groundwater, City of Scottsdale Harquahala Groundwater).

determined on an individual basis and would likely be based on the actual cost to deliver a supply from the introduction point to the delivery point.

Under the water provider model, the continuum contemplates the development and delivery of a new 300,000 acre-foot water supply managed by CAP in addition to long-term supplies currently contracted as Project water. This new supply would be allocated by ADWR, and CAP would enter into new water service contracts and would commit to deliver a certain volume of water. CAP would acquire supply sources and combine them into an organized pool of water or set of pools. CAP could choose to exercise any available supply option to meet 300,000 acre-feet of deliveries continuously. CAP would obtain all necessary environmental clearances and the resulting new water supply would be made assured water supply eligible. Finally, costs would be uniformly allocated to all users benefiting from the new water supply.

Under a blended or hybrid approach, some excess capacity would be set aside for wheeling non-Project water and some capacity would be managed by CAP for firming and augmenting long-term supplies. The wheeled portion would be treated according to the delivery agent model; the new supply portion would be treated according to the water provider model.

At the Industry Focus Group Session, participants were asked to physically stand in a line along an imaginary continuum where one side of the room represented the delivery agent approach, the other side of the room represented the water provider approach and the middle represented the hybrid approach. While participants primarily supported the hybrid approach, there was considerable support for both the delivery agent and the water provider approaches.

Generally, existing water ranch holders were supportive of the delivery agent model. These parties argued that the delivery agent model "represents the smallest change from the status quo"[6]. They further argued that under the water provider approach, CAP would be assuming a new role of acquiring and developing water supplies[7]. One participant argued that "CAP's governance structure" might not be appropriate to assume a water provider function[8]. Others argued that wheeling non-Project water has been a tradition of Reclamation projects for a long time and that a change in this model is a significant change to the status quo and might even require legislative changes[9].

In support of the water provider model, some parties argued that obtaining assured water supply clearances might be easier for water providers[10]. Others

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[6] See Chase comment page 8 of "Industry Focus Group Session Summary of Results" prepared July 10, 2002 located in Appendix B of this report.

[7] Ibid, Sorensen comment page 8.

[8] See Rule comment page 9 of "Industry Focus Group Session Summary of Results" prepared July 10, 2002 located in Appendix C of this report.

[9] Ibid, Chase comment page 13.

[10] Ibid, Miller comment page 10.

argued that the water provider model would result in operational efficiencies and perhaps even lower unit costs than the delivery agent model[11]. In support of a blended or hybrid approach, participants described this alternative as being the most flexible and providing opportunity to meet the needs of existing water ranches while preserving capacity for a future allocation process[12].

While some supplies may not be formally considered "Project Water" (e.g., CAP water stored by CAWCD or AWBA), these types of supplies will be transported as a replacement for Project water supplies using canal capacity that is available for normal use. As such, transportation of these supplies will not constitute a use of "excess" canal capacity. The primary focus of Project Wheel 2002 is the use of "excess" canal capacity. For this reason, issues related to the transportation of such recovered long-term storage credits fall outside the scope of the current undertaking.

III. Analysis of Industry Practices

In analyzing various industry practices[13], the Project Wheel team realized that while there were many commonalities between others and CAWCD, the commonality is limited to easily resolved matters like protecting Project customers, distributing losses, wheeling charges, water quality, measurement and rights to non-Project supplies. When it came to significant issues like prioritizing capacity and providing 100-year assurances, the policies and practices of most other entities were limited or silent.

Additionally, team members realized that decisions about wheeling non-Project water are universally made on a case-by-case basis. In short, there is no formula for making such decisions. The team further concluded that many of the issues addressed in the practices of out-of-state parties have been addressed in Arizona under different terms. For example, many of the agreements addressed the wheeling party's right to the non-Project supply and whether or not the use of that supply causes injury to the location where the supply is taken from. These types of issues have been addressed under the Groundwater Code in sections such as Article 8, Transportation of Groundwater.

Finally, team members realized that there were fundamental differences between CAWCD and these other entities. In asking itself who are CAWCD's customers and which of these customers have the right to use excess canal capacity, the team identified several categories of customers: long-term water service contract holders, excess and incentive contract holders, member lands and service areas in the CAGRD and land owners paying property taxes throughout CAWCD's three-county service area.

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[11] Ibid, Newman comment page 11.

[12] Ibid, Larson comment page 6.

[13] "Review of Industry Practices" prepared July 10, 2002 located in Attachment A of this report.

In researching these other agencies, CAWCD was unique in its customer base. For example, many agencies give priority to the equivalent of CAWCD's water service contract holders. Some will only provide wheeling services to "project petitioners" in the case of the Central Utah Project or CUP[14]. Because CAWCD's base of customers is so diverse, a policy to limit the use of excess capacity to long-term water service contractors may be too narrow in its interpretation.

Another fundamental difference between CAWCD and many of these agencies is CAWCD's role in the state of Arizona's Assured and Adequate Water Supply Program. During the Industry Focus Group Session, several individuals expressed concern about CAWCD "getting into the assured water supply business"[15]. Internally, Project Wheel team members have expressed concern about becoming entangled not only in assured water supply matters, but also in economic development and growth related matters.

After further consideration, team members realized that CAWCD is already in the assured water supply business. For over 600,000 acre-feet of long-term water service subcontracts for CAP water, CAWCD is responsible for making that supply assured water supply eligible. Moreover, the CAGRD, a function of the CAWCD, is a part of the very fiber of the state's assured water supply program. As such, the question at hand is whether the 300,000 acre-feet of water that will fill the excess canal capacity should be assured water supply eligible. If the answer to this question is yes, then the next question is what is the best method for making that water assured water supply eligible.

Based on the work conducted to date, the Project Wheel team has concluded in order to achieve the goal of "best and highest use of excess canal capacity", CAWCD should seek to fill that capacity with water supplies that are assured water supply eligible.

IV. Past Actions of the Board Related to Wheeling

Since its inception, the Board of Directors for the CAWCD has taken several actions directly related to wheeling. The Project Wheel team presented a history of these actions at the May 23, 2002 Board Special Study Session[16].

As a result of these past policies and events, CAWCD has developed an informal framework for wheeling non-Project water through the canal. The following parameters, guidelines and rules regarding wheeling non-Project water have been incrementally developed as a result of past Board actions.

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[14] See page 4 of "Review of Industry Practices" prepared July 10, 2002 located in Appendix A.

[15] See pages 4 through 6 of "Industry Focus Group Session Summary of Results" Prepared July 10, 2002 located in Appendix C.

[16] See pages 9-12 of "Briefing Paper on Issues Related to Excess Canal Capacity and Wheeling Non-Project Water" dated May 23, 2002.

1. The Board supports wheeling non-Project water through CAP's system.
2. Wheeling of non-Project water shall not interfere with deliveries of Project water.
3. The Board is willing to commit project resources to settle Indian water rights claims because of the overall public benefit realized.
4. Non-Project water wheeled for the purposes of settling Indian water rights claims is a higher priority than any other non-Project supply.
5. Wheeled non-Project water shall be subject to losses in proportion to total deliveries.
6. Existing delivery schedules should not be altered to accommodate wheeling non-Project supplies.
7. Legislative authority has created an opportunity for the CAGRD to wheel non-Project water up to 20,000 acre-feet using the Water Availability Status Program.
8. The City of Scottsdale has already entered into an agreement with the CAGRD where the CAGRD can use Harquahala groundwater to meet CAGRD obligations for Scottsdale in the event excess water is not available.

Some of these past actions are outdated. For example, as a result of the settlement with the Gila Indian Reservation and other settlement with tribes since 1988, the overall Statement of Policies and Principles Regarding the Use of CAP Facilities to Facilitate Indian Water Rights Settlements may be unnecessary. Many of the specific components of the policy, however, may still be applicable. The Project Wheel team proposes to consolidate the existing policies into a single action for the Board's consideration.

V. Recommendation from Project Wheel Team

In order to balance customer and constituent needs and to be responsive to state water management goals, the Project Wheel team recommends a blended approach to achieve the best use of excess canal capacity. This approach provides sufficient flexibility to address both ends of the continuum and to migrate incrementally toward a long-term approach that proves to be most effective over time. Moreover, this alternative provides additional time to resolve the numerous complex and difficult issues associated with using excess canal capacity such as obtaining assured water supply and environmental clearances and determining pricing and other issues.

Specifically, the Project Wheel team believes the best use of the CAP system is to deliver 1.8 million acre-feet of water, on a sustainable basis, for beneficial use[17] inside CAWCD's service area. To that end, the team recommends the Board adopt a long-term strategy to reach this objective.

To solicit input from customers and other interested parties about the recommendation, the Project Wheel team conducted an Industry Response Session on August 15. The team also solicited written comments. The results of the Industry Response Session and the letters received are included in Appendix D of this report.

A. Set aside, on an interim basis, a portion of the excess canal capacity for wheeling non-Project water

As a part of this project, the Project Wheel team conducted a needs assessment survey. In response to this survey, parties requested capacity to wheel 264,000 acre-feet of secured[18] non-Project supplies.[19] In analyzing these requests, the team determined that only those supplies already secured by municipal water providers for use pursuant to Arizona Revised Statutes[20] should be eligible for a an interim set aside of excess canal capacity at this time.

The set asides described in this section identify, for a period of time, a certain volume of potential excess canal capacity for a specific entity. These set asides are not rights or options which can be unilaterally exercised, but rather are only planning placeholders for possible use of excess canal capacity. Ultimately, the set asides will either mature into executed wheeling contracts with CAWCD or

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[17] The team envisions supplies, delivered using excess canal capacity, being available for any beneficial use including recharge at both underground storage facilities and groundwater savings facilities and by non-assured water supply as well as assured water supply demands.

[18] In this context, "secured" means supplies identified in the needs assessment conducted by the team and reported in the May 23, 2002 Briefing paper. See footnote 19 below.

[19] See page 4 of 4 in the Summary Report of Volumes Requested for Wheeling starting on page 39 of "Briefing Paper on Issues Related to Excess Canal Capacity and Wheeling Non-Project Water" dated May 23, 2002.

[20] See A.R.S. section 45-552 and 45-557 for City of Phoenix. See sections 45-557 and 45-469 for City of Mesa. See City of Scottsdale's water is eligible for transfer pursuant to section 45-172.

expire under the terms set forth in future wheeling principles and policies adopted by CAWCD.

In addition to these interim set asides for water providers, the team determined that a portion of the excess capacity should be set aside for the CAGRD.[21]

1. Interim Set Asides of Canal Capacity for Wheeling non-Project Water

   a. The Project Wheel team recommends the Board set aside, on an interim basis, an amount up to 38,000 acre-feet per year of excess canal capacity to wheel the City of Phoenix's McMullen Valley groundwater.[22]

   b. The Project Wheel team recommends the Board set aside, on an interim basis, an amount up to 15,000 acre-feet per year of excess canal capacity to wheel City of Scottsdale's Planet Ranch water.[23]

   c. The Project Wheel team recommends the Board wheel an amount up to 25,000 acre-feet per year of the City of Mesa's Pinal County groundwater. While Mesa's water ranch represents a use of canal capacity for wheeling non-Project water, because it would be a water exchange, it may not represent a use of excess canal capacity.

   d. The Project Wheel team recommends that an amount of excess canal capacity be set aside, on an interim basis, for use by the CAGRD to meet a portion of its current and committed replenishment obligation determined as of July 1, 2003, as outlined below.

   By January 1, 2004, the CAGRD will have prepared its second ten-year plan of operation.[24] As a part of this plan, the team recommends the CAGRD staff prepare a Board recommendation for the volume of excess canal capacity needed by the CAGRD.[25] The CAGRD's ten-year plan of operation should be developed within the context of a thorough public participation process. Based on the ten-year plan, the Board can decide how much excess canal capacity should be allocated to the CAGRD.

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[21] The team recommends an interim set aside for the CAGRD to acknowledge the existing and committed replenishment obligations and CAWCD's existing contractual obligations to member lands and service areas.

[22] According to its contract, the City of Phoenix has the right to pump up to 78,000 acre-feet in a single year not to exceed a total volume of 380,000 acre-feet over a ten-year period. The team assumes that Phoenix's option to pump additional volumes in a single year will not be curtailed so long as uncommitted capacity exists to move the supply.

[23] This interim set aside is only made for the severance and transfer of surface water rights to the Bill Williams River at Planet Ranch, from irrigation uses to municipal and industrial uses by Scottsdale, and limited only to surface water diversion at Planet Ranch and conveyed to the CAP aqueduct by means other than through the Mark Wilmer Pumping Plant.

[24] Proposed legislation pertaining to the CAGRD will be considered by the Arizona Legislature in the 2003 legislative session. If that legislation is passed, then the deadline for the CAGRD's ten-year Plan of Operation will be moved back to January 1, 2005.

[25] The team recommends that, in analyzing water supplies available to the CAGRD, the ten-year Plan of Operation should take into consideration other potential supply sources including subcontracts, NIA water, existing CAP long-term storage credits and existing and future effluent long-term storage credits. Such analysis should also take into account the use of a reserve as recommended by the Governor's Water Management Commission.

At a minimum, the team recommends that the Board set aside, on an interim basis, 3,460 acre-feet of excess canal capacity for the CAGRD to wheel Harquahala Valley groundwater on behalf of the City of Scottsdale under the terms of the Water Availability Status Contract to Replenish Groundwater Between CAWCD and Scottsdale.

2. Conditions for Interim Set Asides

The team recommends the interim set asides identified under A.1.a through A.1.c be subject to the following:

a. Interim set asides are non-transferable.

b. Interim set asides shall be in accordance with future Board principles and policies governing the transportation/wheeling of non-Project water and shall be pursuant to a wheeling agreement with CAWCD.[26]

c. Interim set asides should be recognized by ADWR as "developed supplies" for purposes of allocating any water supply developed pursuant to Part B of this recommendation.

3. Other Recommendations Related to Interim Set Asides

The Project Wheel team recommends that the Board:

a. Allow the cities of Phoenix, Mesa and Scottsdale and the CAGRD to be eligible to participate in the new water supply described in Part B of this recommendation.

b. Give equal priority to the use of excess canal capacity for interim set asides provided herein and for transporting water developed pursuant to Part B of this recommendation.

c. Allow for short duration, short distance wheeling contracts subject to the same future Board policies referenced under A.2.b above.

d. Advise water users that future purchases of non-Project supplies will not be guaranteed an interim set aside of canal capacity.

e. Direct staff to prepare a set of wheeling principles by January 1, 2005 for adoption by the Board in 2005.

[26] The team recommends the wheeling principles be developed by January 1, 2005. At that time, the Board may consider such parameters as reservation fees and other general financial principles, perfection periods and water quality standards.

B. Conduct an implementation study to determine if it is feasible to develop a new water supply up to a volume of 100,000 acre-feet per annum

1. The Project Wheel team recommends the Board authorize staff to explore the concept of developing a new water supply of non-Project water to be provided, on a sustainable basis, for beneficial use inside CAWCD's service area. The team recommends the Board establish the following general parameters:

   a. Direct staff to complete the implementation study no later than January 1, 2005.

   b. Limit the volume of the new water supply to no more than 100,000 acre-feet per year.

   c. Develop the implementation study using a thorough public participation process in particular for that portion of the plan dedicated to defining how the new water supply will be allocated.

2. The team recommends the Board direct staff to undertake the following actions:[27]

   a. Determine the extent of CAWCD's legal authority to acquire and develop a water supply for purposes of this section of the recommendation.

   b. Coordinate with ADWR to determine how to make the water supply developed under this part of the recommendation assured water supply eligible.

   c. Coordinate with ADWR and water users to determine how the water supply developed in this part of the recommendation will be allocated.

   d. Coordinate with the U.S. Bureau of Reclamation (BOR) to determine the best method of addressing environmental compliance issues associated with developing a new water supply.

   e. Coordinate with the BOR to determine how the provisions of CAWCD's repayment contract accommodate wheeling by CAWCD instead of a third party.

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[27] Most of these matters were raised during the public meetings conducted as part of Project Wheel 2002. This listing is not intended to be an exhaustive listing. At the onset of the implementation study, a more extensive work plan will be developed.

f. Determine how CAWCD will address the availability of excess canal capacity during surplus years.

C. Save remaining capacity for another day

The Project Wheel team recommends the Board reserve a portion of excess canal capacity for future decisions. Team members recommend a blended approach in order to create an opportunity to address the basic approaches to using excess canal capacity. By preserving some capacity, the Board reserves the flexibility to use the remaining capacity in either approach (i.e. A or B above) or to develop a totally different alternative at some point in the future. In addition, preserving some capacity will give future residents of CAWCD's service area the opportunity to benefit from the CAP.

D. Consolidation of past Board actions

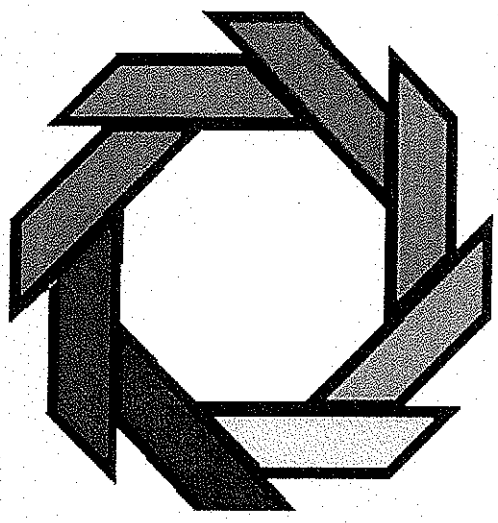
The Project Wheel team recommends the past actions taken by the Board be consolidated into a single, comprehensive action. In doing this, the team expects to present an action item to the Board that would result in certain past policies being superceded by a new policy.

VI. Conclusion

The primary goal of this strategy is to create a new 300,000 acre-foot supply of reliable, assured water supply eligible water, consistent with federal environmental laws. By implementing the strategy described above, CAWCD is agreeing to operate the canal in a manner that will deliver a supply of 1.8 million acre-feet annually in perpetuity. While this seems and is a lofty goal, it is no different than the commitments the Board and employees of CAP make every day and have made every day since CAP water was first delivered to the Phoenix area in 1985.

G:\wheeling team folder\Discussion Paper\Discussion Document Final 12-10-02.doc

BRIEFING PAPER ON ISSUES RELATED TO EXCESS CANAL CAPACITY AND WHEELING NON-PROJECT WATER



Prepared for the CAWCD Board of Directors
By the PROJECT WHEEL 2002 Team
May 23, 2002

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I. INTRODUCTION

On an on-going basis, CAP will annually divert approximately 1.5 million acre-feet during a normal water supply year. CAWCD staff estimates that approximately 1.8 million acre-feet of water can be safely conveyed through the CAP system each year. This creates an annual excess system resource of roughly 300,000 acre-feet. CAWCD has a responsibility to manage excess canal capacity for the benefit of the customers and constituents residing in the CAP service area. CAWCD also has a responsibility to manage this resource in a manner that supports the water management goals of the State.

While excess canal capacity can be used in a variety of ways, this briefing paper primarily explores the numerous issues related to the use of excess canal capacity by third parties for the purpose of wheeling non-Project water. This paper does not purport to contain an exhaustive list of issues. As Project Wheel 2002 continues, additional issues will be raised and debated.

The purpose of this briefing paper is to accompany the May 23rd Special Study Session on wheeling non-Project water. At this Study Session, the Project Wheel Team hopes to establish a foundation for understanding the many complex issues associated with using excess canal capacity and specifically wheeling non-Project water. The purpose of this briefing paper and the Study Session is to provide information and not to establish opinions about how these matters should be resolved.

This briefing paper is divided into eight sections. The first three sections introduce the subject matter, frame the issue of excess canal capacity and provide a brief history of past Board actions. The next six sections organize issues into broad categories as follows:

- Operational Issues;
- Cost to Wheel and Wheeling Charge;
- Assured Water Supply;
- Environmental Issues;
- Water Quality; and
- User Priorities.

During the Study Session, these categories will be addressed in the order found in this briefing paper. The last section concludes this paper. Finally, as part of Project Wheel 2002, staff conducted a needs survey. The results of this survey are summarized in two reports starting on page 39.

II. USE OF EXCESS CANAL CAPACITY

Historically, discussions concerning the use of excess canal capacity have focused on transporting non-Project water for third parties. However, wheeling non-Project water for third parties is but one of several possible uses for excess canal capacity. Other possible uses for excess canal capacity include transporting recovered long-term storage credits, transporting new water supplies acquired by CAWCD and transporting

non-Project water for the CAGRD. Over time, CAWCD has developed policies[1] that support a broader use of system resources than just third party wheeling. These policies focus on:

- Protecting Project water deliveries;
- Controlling costs for Project water customers;
- Delivering all Colorado River water available to CAP;
- Facilitating the use of the CAP system to wheel non-Project water for third parties, to the extent that CAP Project customers and CAP facilities are not adversely impacted; and
- Meeting the needs and responsibilities of CAWCD to effectively manage the CAGRD.

To this end, one of the fundamental purposes of Project Wheel 2002 is to engage a dialogue concerning the highest and best use of excess canal capacity.

While some supplies may not be formally considered "Project Water" (e.g. CAP water stored by CAWCD or AWBA), these types of supplies will be transported as a replacement for Project water supplies when sufficient canal capacity exists. Transportation will not constitute a use of "excess" capacity. The primary focus of Project Wheel 2002 is the use of "excess" capacity. For this reason, issues related to the transportation of such recovered long-term storage credits falls outside the scope of the current undertaking.

[1] Source: 1983 position statement relative to transportation of Non-Project water, the 1988 statement of policies and principles regarding the use of CAP facilities to facilitate Indian water rights settlements, 9-12-88 Discussion Document and CAP's mission, vision and business strategies.

A. Wheeling Defined and the 1988 Master Repayment Contract

Generally, for purposes of the CAP, the term "wheeling" refers to the use of the CAP aqueduct system to transport non-Project water.

The 1988 Amended Master Repayment Contract (the "1988 Contract") governs the use of CAP facilities for the transportation of non-Project water. CAWCD has the authority to use Project facilities for wheeling non-Project water under the conditions set forth in Article 8.18 of the 1988 Contract. Generally, such use is permitted if all water delivery requirements for Project water have been met and canal capacity is still available. Specifically, Article 8.18 of the 1988 Contract provides:

> *"8.18 Wheeling Non-Project Water. After taking into consideration the water delivery requirements of contracts for project water service and subject to availability of project capacity, non-project water may be wheeled through project facilities pursuant to wheeling agreements between the Contractor and the entity desiring to use project facilities for wheeling purposes. All such agreements shall be subject to the approval of the Contracting Officer who shall consider, among other things, the impact that the wheeling of such non-project water will have on the quality of project water. The Contractor and the Contracting Officer shall jointly develop a standard form of wheeling agreement including the rate structure for wheeling non-project water. All wheeling charges shall be paid to the Contractor by the entity contracting for the wheeling of non-project water. The Contractor shall be entitled to retain revenues from wheeling charges sufficient to cover all OM&R costs associated with wheeling such non-project water, plus an administrative charge to be jointly determined by the Contractor and the Contracting Officer. All revenues from wheeling charges in excess of the OM&R costs and administrative charges shall be remitted by the Contractor to the Contracting Officer and deposited into the Development Fund."*

Further, Article 8.19 of the 1988 Contract governs the use of project power to wheel non-Project water. Specifically, it provides:

> *"8.19 Use of Project Power to Wheel Non-Project Water. If the energy requirements necessary for the pumping of project water are met and subject to the requirements of the Navajo Power Marketing Plan published in the Federal Register on December 21, 1987, project power may be used to wheel non-project water through project facilities under such conditions of use, including amounts, times of use, losses, costs, and other conditions as are established by the Contractor and approved by the Contracting Officer."*

B. Project Water and Non-Project Water Defined

Simply put, non-Project water is any water that is not "Project water". Project water is defined in the CAP repayment stipulation as follows:

"Project Water" shall mean:

Text of Stipulation	***Discussion/Explanation***
(1) all Colorado River water to which Arizona is entitled under the U.S. Supreme Court decree in Arizona v. California that the CAP Water Supply System is capable of delivering:	***Applies to Arizona's entire 2.8 million acre-foot entitlement, plus surplus water when available; limited by CAP's capacity***
(i) after first providing for satisfaction of those rights described in Article 8.7(b)(i) and (ii) of the 1988 [Master Repayment] Contract, and	***Colorado River water users with a priority date before CAP—i.e., before September 30, 1968***
(ii) subject to the provisions of Article 8.7(c) of the 1988 Contract;	***Recognizes that CAP shares priority with up to 164,652 acre-feet of mainstem contracts entered into after September 30, 1968***

"Project Water" shall mean:

Text of Stipulation	***Discussion/Explanation***
(2) water available from Central Arizona Project dams and reservoirs;	***At this point, only Agua Fria River water at New Waddell; water from Roosevelt Dam is excluded***
(3) return flows captured by the Secretary for Project use;	***None to date***
(4) water delivered to water users in Arizona, through the Project Works, in exchange for water delivered to users in New Mexico from or by means of the Project Works;	***New Mexico has a right under the Basin Project Act to 18,000 acre-feet of Colorado River water delivered by exchange through the CAP***
(5) Colorado River water acquired from the Yuma Mesa Division of the Gila Project pursuant to the Ak-Chin Water Rights Settlement Act of 1978 (Public Law 95-328), as amended on October 19, 1984 (Public Law 98-530);	***Higher priority Colorado River water acquired for Ak-Chin settlement***
(6) Colorado River water acquired from the Wellton-Mohawk Irrigation District pursuant to the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988 (Public Law 100-512); and	***Higher priority Colorado River water acquired for SRPMIC settlement***
(7) Any additional water not included in (i) or (ii) above that is required to be delivered by the Secretary through Project Works pursuant to the Southern Arizona Water Rights Settlement Act of 1982 (Title III of Public Law 97-293) or pursuant to any subsequent act of Congress.	***SAWRSA water will most likely be water already defined as Project Water (e.g., CAP non-Indian agricultural water)***

III. PAST ACTIONS OF BOARD RELATED TO WHEELING

Since its inception, the Board of Directors for the CAWCD has taken several actions directly related to wheeling. The first of these actions was taken in 1983, when the Board adopted a position statement relative to transportation of non-Project water:

> *The Board of Directors of the Central Arizona Water Conservation District endorses the concept of transporting water surplus to outlying areas of the state into the District for use within its boundaries. Such transportation shall be limited to otherwise unused capacity of CAP works – and shall be subject to Arizona Water law and to charges determined by the District to be appropriate for the particular instance. [Approved by Board 3/5/83]*

According to historic records, this first action was in response to a request from the Arizona Ranch and Metals Company[2] requesting a formal comment from the Board endorsing the transportation of non-Project water. Arizona Ranch and Metals believed that an "endorsement would assist Arizona Ranch and Metals in their efforts to market their water."[3]

In 1988, the Board adopted a statement of policies and principles regarding the use of CAP facilities to facilitate Indian water rights settlements.

> *The Board of Directors of the Central Arizona Water Conservation District recognizes that unresolved Indian water rights claims are a constraint on orderly and efficient water management. The Board recognizes that a broad public benefit is a potential result of resolution of these claims, and wishes to lend the resources of the District to efforts to realize those benefits while protecting the ability*

[2] Arizona Ranch and Metals is the company that owned Planet Ranch, a water ranch ultimately purchased by the City of Scottsdale.
[3] Memo from T. Clark dated 2-10-83.

of the CAP to accomplish its primary purpose of delivering CAP water to CAP customers. Accordingly, we support and direct the use of CAP facilities to facilitate Indian water rights settlements which we find to be consistent with our basic responsibilities. As a general condition, we find that such settlements should be implemented and given priority over non-Project uses of CAP facilities, subject to the following principles:

Principles:

1. *Water Supply*

   a) *There should be no adverse impact on water supplies otherwise available for CAP.*

   b) *There should be no adverse impact on CAP users that are not parties to the settlement.*

   c) *Supplemental water supplies delivered through CAP facilities should share losses pro rata with all other water supplies delivered through such facilities.*

2. *System Capacity*

There should be no reduction in the delivery capacity otherwise available to existing CAP subcontractors (i.e., there should be no change required in the anticipated water delivery schedules of those that are not parties to the settlement).

3. *Navajo Power*

   a) *There must be no reduction in Navajo Surplus available for long term marketing under the Navajo Marketing Plan.*

   b) *The settlement should not interfere with the District's receiving optimum value from the sale of short term Navajo Surplus.*

   c) *At no time may the power costs to settlement participants be less than those paid by CAP water users generally.*

4. *O&M Costs*

The settlement should provide for the recovery of an appropriate charge to offset fixed O&M costs associated with the delivery of settlement water supplies.

5. *Repayment*

Water delivered through Project facilities to facilitate Indian settlements (such as replacement water and water leased by Indians to non-Indians) should be treated as if it were Project water delivered to Indian entities for purposes of determining CAWCD's repayment obligation.

Subject to the foregoing principles, each proposed settlement should be considered on its own merits. The Board's approval of any particular settlement shall not be regarded as establishing any precedent for any other settlement. [Adopted by Board 3/3/88]

This second action was in response to the Board's desire to facilitate Indian water settlements in order to allow for the orderly and efficient management of water resources in Arizona.

In 1988, there was a heightened level of interest in using the CAP system to transport non-Project water. Several cities had purchased or were considering purchasing water farms, and the BOR was seeking a replacement water supply for Cliff Dam. In response to this interest, CAWCD staff prepared a Discussion Document dated September 12, 1988, entitled Issues Regarding Transportation of non-Project water in the CAP Aqueduct. As a result of those discussions, the Board concluded in 1989 that a formal policy was premature.

In addition to these adopted policies and the 1988 Discussion Document, CAP reviewed its wheeling policy in the fall of 1998 in response to the City of Scottsdale's request to deliver non-Project water. After considering Scottsdale's request, the Board reasoned

that the issue was once again not ripe for further development and the Board re-affirmed its 1983 position statement.

Subsequent to the Board's decision to affirm the 1983 policy, in 1998 the City of Scottsdale decided to pursue a legislative solution. The Arizona Legislature adopted the Water Sufficiency and Availability Act in 1999. This Act authorized the Central Arizona Groundwater Replenishment District (CAGRD) to enter into agreements with member service areas seeking designations of assured water supply when sufficient groundwater is not physically available. It also helps them comply with the assured water supply criterion related to consistency with management goal (i.e safe yield) by requiring the replenishment of groundwater in the location where it is pumped. Through this new authority, the CAGRD entered into agreements to deliver excess CAP water to Scottsdale for direct use and for recharge in a local facility. If excess CAP water is not available, then the CAGRD will either acquire another supply or will arrange for delivery of Harquahala groundwater to Scottsdale.

As a result of these past policies and events, CAWCD has started to develop a framework for wheeling non-Project water through the canal. Through Project Wheel 2002, the Board may want to consider looking at these policies and events in a more comprehensive way that will allow the Board to affirm or modify its past action.

IV. OPERATIONAL ISSUES

While there are numerous issues related to canal operations, the following major items are discussed in this briefing paper:

- Volume of Excess Canal Capacity;
- Water measurement and accounting;
- Water losses;
- Storage of wheeled water;
- Energy source for pumping wheeled water; and
- Wheeling during surplus events on the Colorado River.

A. Volume of Excess Canal Capacity

Staff estimates the total volume of excess canal capacity to be approximately 300,000 acre-feet per year. This volume is based on several studies completed over the past few years. In December 1999, a report by DCI Incorporated estimated the available volume at 200,000 acre-feet. Since then and building on DCI's work, CAP staff has developed models and improved assumptions using recent operational experience. Based on these more recent efforts, CAP believes it can safely deliver about 1.8 million acre-feet per year[4]. Assuming total water diverted in a normal year is around 1.5 million acre-feet, the difference is 300,000 acre-feet.

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[4] This volume is based on several assumptions: (a) all water can be moved within the current lining, (b) CAWCD will proactively manage aquatic pests, such as mussels, clams, snails, and algae and (c) CAWCD will change its current maintenance and repair practices to perform maintenance concurrent with adjacent pumps running through the summer.

B. Water Measurement and Accounting

As with any properly managed water conveyance system that collects revenues from its customers, all water that enters and leaves the CAP must be accounted for. The Water Control Department prepares a monthly system-wide water balance that requires accurate metering at all pumping plants and turnouts.

Under current CAWCD practices, all long-term customers with significant diversion requirements are required to use electronic flowmeters that meet the highest standards of the industry (i.e. ½ percent accuracy). Additionally, current practices require new customers to incur all costs associated with purchasing the flowmeter and installing it within CAP right-of-way. Finally, under current practice, CAWCD staff performs the initial setup and certification, along with ongoing maintenance and repair.

With wheeled water, CAWCD would need to meter and account for the volume of water when it enters the CAP system at the "introduction point" and when it leaves the CAP system at the "delivery point". At this juncture, staff envisions that current water measurement and accounting practices would apply fully to wheeled water at both the introduction and delivery points.

C. Water Losses

Assuming CAWCD diverts 1.5 million acre-feet (i.e. normal year diversions), the CAP

currently incurs about 75,000 acre-feet in canal and reservoir losses. 25,000 acre-feet is estimated in canal losses and 50,000 acre-feet is estimated in Lake Pleasant losses. For the 25,000 acre-feet of canal losses, about half is evaporation and half is seepage.

CAWCD does not expect to incur additional canal losses with the utilization of the excess canal capacity, because the canal is designed to operate in a way that keeps the canal full at all times regardless of how much water flows through the system.

The cost of the lost water is currently incorporated into the "postage-stamp" energy rate, along with lost energy from pump and motor efficiency.

There are several approaches to charging water losses to wheeling customers.

1. Do not charge for any losses, since there are arguably no incremental losses by flowing an additional 300,000 acre-feet through the canal.
2. Charge for losses on a "per mile" rate, based on the distance between the diversion point and the delivery point.
3. Charge for losses on a "per acre-foot" rate, based on the volume of water metered at the diversion point.
4. Charge for all system losses thereby relieving all other customers of this cost.

D. Storage of Wheeled Water

When wheeled water is introduced into the CAP system, CAWCD must consider the timing of the new water entering and exiting the canal. If the wheeled water remains in

the canal for a period of time, it may require storage resources. To the extent the wheeled water requires storage, there are several approaches that can be considered.

1. Simultaneous "in and out" Approach. One alternative is to require all water that enters the CAP canal to also have an identical amount simultaneously leave the canal. This is perhaps the simplest approach. It also parallels current canal operation where CAWCD delivers water to customers at flow rates that change hourly while canal storage is kept constant all the time. Practically speaking, it would be impossible for the flow rate at the introduction and delivery points to precisely and consistently match, so a monthly deviation account would be required. This water would, in theory, bypass Lake Pleasant.

2. Pooled Approach. Another alternative is to incorporate a strategy whereby the wheeled water becomes part of the CAP system storage pool at the introduction point. CAP would then deliver an equivalent amount at the delivery point. This option may be advantageous to both the customers and CAP because of the operational flexibility it offers. Under this approach, the retention time in storage could have a time limit or be open-ended.

3. Lake Pleasant Approach. Under this approach, wheeled water would be stored and tracked in Lake Pleasant. CAWCD would then deliver the wheeled water to the delivery point. The retention time in storage could have a time limit or be

open-ended. CAWCD would also need to develop rules regarding spills out of the lake from storm runoff (i.e. whether the wheeled water is first to spill).

E. Energy Source for Pumping Wheeled Water

CAP currently has several sources of electric energy: Hoover B and C, New Waddell, Navajo and other generation sources scheduled through Western Area Power Administration. The current Navajo Marketing Plan (which expires in 2011) does not address the use of Navajo power to wheel non-Project water. As wheeled water is incorporated into the CAP system, CAWCD could obtain incremental pumping energy in several ways.

1. CAWCD could purchase energy on the open market and pass the cost through to the specific customers.
2. Third party customers could supply their own energy and arrange to deliver it to CAP.
3. If incorporated into a future Navajo Power Marketing Plan, CAWCD could sell part of its surplus Navajo energy to the party wheeling non-Project water.

F. Wheeling During Surplus Events on the Colorado

During surplus years, the CAP system may be fully utilized to divert Arizona's share of the Colorado River supply. Consistent with existing policy, CAP will not forego available Colorado River supply to wheel third party non-Project water. However, it may be operationally possible and desirable to wheel some third party non-Project water on a case-by-case basis.

V. COST TO WHEEL AND WHEELING CHARGES

Wheeling contracts will ultimately include provisions relating to charges for wheeling services. There are two basic costs associated with wheeling non-Project water: one-time pre-wheeling costs and annual wheeling charges.

A. One Time Pre-Wheeling Costs

Parties planning to wheel water in the CAP canal may incur construction costs to build infrastructure to convey non-Project water to the point of introduction to the CAP canal. These costs will be borne by the third party. To the extent CAWCD incurs any of these costs, the third party will reimburse CAWCD. These charges are related to obtaining a CAP land use license and engineering, legal, water quality and measuring, maintenance, and environmental reviews.

B. Water Wheeling Charges

In reviewing wheeling agreements of other water organizations, these agreements typically include costs associated with administration, energy, operations and maintenance and capital investments. Further contractual provisions normally provide protection from increased costs or financial harm to Project water customers. A capacity charge may or may not be included depending on whether wheeled water is

considered part of the core delivery system capacity. The following is a discussion of wheeling rate components.

1. Administrative Charges (direct charges)

Administrative charges include the ongoing, appraisal based, land use charge and reoccurring administrative costs (maintenance, engineering, legal, special water testing, etc.). If capital equipment was not paid upfront by the third party, the associated depreciation (e.g. flowmeter depreciation) could be passed back as part of the administrative charges.

2. Energy rate ($/acre-foot)

There will be an energy rate component associated with wheeling water. The method used to calculate the rate may be influenced by the customer classes (M&I, Federal, Agricultural, etc.) and energy rates that exist at the time the wheeling occurs. Some options for the wheeling energy rate are as follows:

a. Utilize existing energy rates: Wheeling water volumes and associated costs could be incorporated into one of the existing "postage stamp" rates.

b. Develop a specific incremental cost based rate: An individualized wheeling incremental cost based rate would recognize the specific distance water is

wheeled. Energy would be computed based on the specific pumping plants utilized. The cost per MWH would be for the actual incremental energy.

c. Bring your own power: Another option is for wheeling parties to provide their own power. The MWHs required could be calculated using either option mentioned above.

Under all three options discussed above, the wheeling party would be responsible for energy requirements to transport their water to the CAP canal.

3. Capital Charge ($/acre-foot)

CAP's current M&I capital charge assists in the repayment of CAWCD's federal debt obligation associated with the CAP construction. Third parties wheeling water could pay a similar charge.

4. Fixed OM&R rate ($/acre-foot)

Like all other customers, parties seeking to wheel non-Project water through the CAP system would need to pay a fixed OM&R (i.e. non energy) charge. CAWCD's full cost delivery charge includes the fixed OM&R costs associated with operating the system. There are potentially two approaches to developing a fixed OM&R charge for parties wheeling non-Project water.

a. Incremental cost approach: A special wheeling fixed OM&R rate could be created incorporating incremental fixed OM&R costs. Unfortunately, incremental costs could be minimal and could significantly under charge wheeling customers relative to customers paying the normal fixed OM&R rate for Project water.

b. Utilize the existing fixed OM&R rate: Under this approach any incremental fixed OM&R costs and water volumes associated with wheeling water would be included when calculating the normal CAP fixed OM&R rate and charged to wheeling and Project water customers alike.

5. Canal Capacity Rate ($/acre-foot)

CAP could charge a capacity rate for use of the canal for wheeling. Some options for a wheeling canal capacity rate are:

a. Utilize an incremental capacity cost based rate. Such an approach may be difficult to quantify, and the timing of incremental costs may not match when rates are charged.

b. Incorporate a cost allocation approach in developing a capacity rate. This would involve assigning a portion of fixed OM&R costs (including incremental capacity costs) to a wheeling capacity rate. The balance of the costs would

be assigned to a fixed OM&R rate that would apply to both Project and wheeled water.

c. Charge an annual canal capacity rate paid every year to reserve the future right for canal capacity.

d. Charge an annual canal capacity rate paid only in the actual year of wheeling.

e. Charge an annual canal capacity rate based on the value of the benefit provided.

f. Apply a seasonal canal capacity rate by canal segment. For example, in the canal segment between the Mark Wilmer and Waddell pumping plants there may only be a capacity charge in the winter months.

g. Decide not to incorporate a canal capacity rate into the rate structure. Incremental capacity costs would be included in the fixed OM&R rate under this option.

VI. ASSURED WATER SUPPLY

Water providers seeking to wheel non-Project supplies through the CAP may want this supply to qualify as a 100-year assured water supply under ADWR's Assured and Adequate Water Supply Rules (the "AWS Rules"). With this in mind, CAWCD staff met with ADWR staff to discuss, in general terms, how wheeled water might be treated under the AWS Rules. At this meeting, ADWR offered the following specific points regarding the wheeling of non-Project water and the AWS Rules.

A. Separation of Supply Source and Rights to Wheel

To qualify a proposed water supply as a 100-year assured supply, the AWS Rules require, among other things, that an applicant prove that the water supply will be "physically, continuously and legally available" for 100 years. While the AWS Rules describe how to meet this test for several supplies, the AWS Rules are silent on the requirements for demonstrating physical, continuous and legal availability of a water supply consisting of non-Project water coupled with a contract to wheel such water through the CAP canal.

ADWR indicated that its analysis of proposed wheeling schemes will, most likely, separate the water supply from the rights to wheel water and analyze each independently. That is, the underlying water supply itself must satisfy the physical, continuous and legal availability requirements of the AWS Rules, and the rights to utilize canal capacity granted in the wheeling contract must also satisfy these same requirements.

Accordingly, if a water provider wants to qualify a water supply consisting of non-Project water and a wheeling contract, ADWR will want to see certain provisions in CAWCD's wheeling contracts to ensure that the wheeling arrangement satisfies the physical, continuous and legal availability requirements of the AWS Rules.

B. 100-Year Term of Contract

To demonstrate legally availability for 100 years, ADWR will want the term of any wheeling contract that will be used for assured water supply purposes to be at least 100 years. The AWS Rules require that a designated provider (a water provider who has received a 100-year assured water supply designation from ADWR) demonstrate every year that it has a 100-year water supply of sufficient quantity to serve its current and committed demand.

However, even if CAWCD's wheeling contract were to have a 100-year term, after the first year, the contract would no longer be a 100-year contract, causing the water supply associated with the wheeling contract to be disqualified for assured water supply purposes. This problem has arisen in the context of CAP water leased by water providers from Indian Communities; ADWR has adopted special rules governing this type of water supply. ADWR indicated that a similar solution might be possible in this case.

This 100-year term requirement could prove problematic for CAWCD. Even if CAWCD were willing to enter into a wheeling contract for 100 years, the Basin Project Act prohibits CAWCD from entering into contracts for water delivery for terms in excess of 50 years.

C. Firming of Wheeled Supply

To demonstrate continuous availability, ADWR will want to see "firm" wheeling rights. That is, if the rights to use canal capacity granted in the wheeling contract are interruptible, ADWR will want to know the projected length and frequency of potential interruptions. CAWCD believes that during surplus years on the Colorado River, CAP canal capacity available to wheel non-Project water may be constrained.

ADWR commented that this would impact the reliability of the non-Project water supply. ADWR would want to see some sort of back-up water supply to cover the Colorado River surplus years when excess canal capacity is not available for wheeling. The back-up supply could consist of, among others, long-term storage credits, legally available groundwater, membership in the CAGRD or a contract for surplus CAP supplies during surplus years.

D. Study Proving CAWCD's Ability to Move Wheeled Supplies

ADWR will want to see some sort of study from CAWCD concluding that it can physically deliver the non-Project water supplies it has committed to transport under its wheeling contracts.

E. Off-Site Infrastructure Concerns

If infrastructure will be required to transport the non-Project water from its source to the CAP canal, ADWR will want to see a "clear path" to its completion. That is, the actual infrastructure does not need to be constructed. However, when the time comes for its construction, ADWR does not want anything standing in the way. Specifically, ADWR suggested that the water provider be required to obtain any environmental clearances up front.

F. Warren Act Waiver

The Warren Act of 1911 authorizes the U.S. Bureau of Reclamation (BOR) to contract with third parties for the use of excess capacity in Reclamation projects, to transport and/or store non-Project water for irrigation purposes. ADWR inquired whether CAWCD needed to obtain a Warren Act waiver from the U.S. CAWCD responded that it does not. The use of CAP facilities for the transportation of non-Project water is governed by the 1988 Amended Master Repayment Contract ("1988 Contract").

VII. ENVIRONMENTAL ISSUES

Environmental issues may impact the level of CAWCD involvement in the development of wheeled water supplies, or they may constrain the volume of water supply developed

for wheeling. Fundamental to environmental policies or strategies for CAWCD are the need to:

- Protect CAP from entanglement in "local growth" issues; and
- Ensure that the CAP system and resources are exempt from additional environmental review.

Wheeling of non-Project water through the CAP system will require the development of wheeling contracts between CAWCD and the wheeling entity, with approval from the BOR. BOR approval will likely be considered a federal action and trigger NEPA compliance (National Environmental Policy Act) and compliance with the Endangered Species Act (ESA). Depending on the scope of the federal action, either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) will be prepared.

NEPA compliance considers a laundry list of impacts from land, water, air, biological, to "cumulative impacts". The scoping process, conducted by the BOR, will define the extent and detail of analysis for each of the impacts. The biological aspect of NEPA compliance will include analysis of Endangered Species Act compliance. At the minimum, an EA will be necessary for "on the ground" infrastructure required for wheeling. The infrastructure could include: pipelines, wells, and pumping plants. In the extreme case, the impact of growth induced by wheeling could be evaluated.

As indicated on page 26 of this report, ADWR will require a "clear path" before any water supply, including a wheeled supply, can qualify for assured water supply purposes. In the case of wheeled supplies, the "clear path" would include NEPA clearance by the BOR. Depending on how the NEPA process is scoped, environmental clearances could take from 1 to 3 years to complete.

CAWCD may wish to consider different strategies in determining how or if to facilitate environmental compliance for wheeled water supplies. CAWCD could consider two broad approaches:

- In cooperation with BOR, CAWCD develops a comprehensive approach to managing environmental clearances; and
- Require parties seeking to wheel supplies to obtain environmental clearances independently.

A. Comprehensive NEPA Approach

By engaging the BOR, CAWCD can better evaluate alternative NEPA compliance approaches. The most favorable case would be the development of a "programmatic" EIS for wheeling. This process would identify the general location of wheeling sources, the potential delivery points, and the maximum volume of water per year wheeled. The range of impacts due to wheeling would be evaluated. This process could streamline NEPA compliance.

The least favorable case would require NEPA compliance for each individual wheeling project and include the evaluation of impacts from the use of wheeled water after delivery. Engaging the BOR can be useful to identifying "fatal flaws" in wheeling development plans. However, CAWCD may have to amend BOR's work plan and budget to accommodate this work.

B. Bring your own Environmental Clearances Approach

An alternative to CAWCD involvement is to leave NEPA compliance for the wheeling parties to resolve. This approach keeps CAWCD out of NEPA issues for the CAP system. However, if CAWCD opts not to participate in the NEPA, there is a risk of inconsistencies developing between CAWCD policies and NEPA agreements entered into by the wheeling entity and BOR. Under such circumstances, CAWCD would not wheel the non-Project water.

At present there may be no urgent need to resolve NEPA issues associated with wheeling. However, CAWCD will need to develop strategies for managing environmental clearances prior to formal discussions with BOR in the development of standard form wheeling contracts.

VIII. WATER QUALITY

While water quality issues will likely require CAWCD to develop policies or practices closer to the time when wheeling contracts are actually negotiated, there are fundamental principles that such policies will need to consider:

- Protecting CAP customers from potential adverse water quality impacts;
- Protecting CAP from adverse impacts to CAP operation and maintenance; and
- Protecting CAP from liability or damages potentially resulting from wheeling.

The quality of wheeled supplies introduced to the CAP system may be governed by regulatory compliance needs and the need to protect CAP customers and the CAP system. At present, regulatory compliance for Project water quality is minimal. CAWCD is not considered "waters of the United States" as defined by current law. As such, neither Project water nor wheeled water requires compliance with Federal or State surface water quality standards. Therefore, CAWCD is free to establish its own standards for the quality of water introduced by a third party to be wheeled in the CAP system. Wheeling contracts will stipulate requirements for the quality of water introduced to the CAP system pursuant to policies and practices established by CAWCD.

A. Impact of Varying Levels of Quality

In order to explore the water quality issues, it is important to consider that wheeled water will consist of one of three qualities relative to Project water: higher quality, similar quality, or poorer quality. Adverse water quality impacts may occur if the volume of wheeled water significantly changes the quality of Project water by the time the water is delivered to CAP customers. Variables that affect the dilution of Project water by wheeled water are: CAP flow rate, wheeled water flow, and seasonal changes in Project water due to Colorado River diversions or Lake Pleasant releases.

Wheeling higher quality water or similar quality water would not appear to present a major issue for CAP operations. However, in the case of higher quality water, if the wheeled water is sufficiently different from Project water normally provided to municipal users, the wheeled water might upset some treatment system operations.

Even the discharge of similar water quality into the CAP system can potentially create water quality issues. For example, if the wheeled water has different physical characteristics from Project water, such as temperature or dissolved oxygen content, CAP operations could be impacted. Example impacts could include: low dissolved oxygen could drive grass-eating carp from the discharge area, potentially leading to aquatic weed problems. Temperature variations could have a similar effect.

Poorer water quality is of greatest concern. Poorer quality water discharged to the CAP system will dilute the quality of Project water. The fundamental questions are the extent and timing of dilution. The concept of percent contribution could be used to evaluate impacts and ensure that the poorer water quality does not appreciably affect Project water quality. The percent contribution may change if additional wheeling contributions occur in the same reach of the canal. Establishing maximum constituent levels may require conference with municipal users to determine acceptable changes in water quality. Similarly, water quality must be acceptable to water recharge permitting requirements.

B. Alternative Approaches

Requirements for the quality of wheeled water will be defined in wheeling contracts. There appear to be two approaches to consider.

- Wheeled water must be similar to or higher quality than Project water unilaterally.
- Wheeled water must not unreasonably impact CAP customers or CAP operations as determined on a case-by-case basis.

The unilateral alternative could provide certainty to CAP, CAP customers and potential wheeling entities. Under such an alternative, CAWCD would require wheeled water to be similar to or higher quality than Project water. The policy would define the acceptable range of measured constituents in the wheeled water. Any water wheeled in

the CAP system would have to meet the stated water quality parameters. This approach, taken by the California State Water Project, could limit wheeling to Colorado River supplies or require some groundwater sources to be treated prior to introduction into the CAP system.

The case-by-case alternative provides greater flexibility to CAP and its customers and such an approach could reflect daily and seasonal operational constraints. For each case, the water quality resulting from wheeling would be modeled to estimate the dilution of Project water quality at various times and distances from the point of introduction. The dilution of Project water would have to remain within acceptable ranges from the point of introduction to the delivery point. The acceptable range of constituents would likely be defined in cooperation with CAP customers. The case-by-case approach has been taken by Maricopa Water District and Metropolitan Water District of Southern California.

Regardless of the approach taken by CAWCD regarding water quality, the following issues may need to be considered:

1. Full assessment and disclosure of wheeled water supply quality for approval by CAWCD;
2. Development of a wheeling discharge plan for approval by CAWCD. The discharge plan would describe the point of introduction, timing, volume, and point of delivery for wheeled water;
3. Modeling of water quality impacts to CAP and its customers due to wheeled supply;

4. Real-time water quality monitoring at the source and at points along the travel path; and
5. Indemnification of CAWCD against potential damages resulting from water quality changes due to wheeling.

IX. USER PRIORITIES

Establishing priorities for use of excess canal capacity is one approach to orderly manage excess CAP system resources. When evaluating the priority approach, it is important to consider CAWCD's responsibilities and stakeholders.

Like other water providers, CAWCD has the responsibility to ensure that wheeling does not interfere in the delivery of Project water to its customers. Inherent in that obligation, CAWCD is responsible for controlling access to and use of excess canal capacity.

A unique aspect of CAWCD is its responsibility to taxpayers within its water delivery service area. These taxpayers pay ad valorem taxes used for CAP repayment and water banking to firm CAP M&I supplies in the CAP service area. Therefore, CAWCD has a broader responsibility to manage excess CAP canal capacity for the best interests of water management in the CAP service area. In short, Project water customers are not the only shareholders in the CAP system.

An additional aspect of the priority approach is the extent and frequency of capacity availability. As discussed earlier in this report, the normal year excess canal capacity

will be approximately 300,000 acre-feet. However, available excess capacity will vary by canal segment and season. In years when surplus Colorado River supplies are available, most available excess capacity will be used to deliver surplus CAP water. There may limited times and locations where wheeling might occur during surplus supply years.

In the case of a shortage of Colorado River supplies, it is possible that substantial excess capacity would be available. However, during shortage years, it is anticipated that CAWCD will recover long-term storage credits to firm M&I supplies. These credits will be recovered by CAP, introduced into the CAP system and directly delivered to customers, or CAP will assign credits to appropriate CAP users.

Additionally, it is possible that CAWCD could replace or facilitate the replacement of NIA priority CAP water contracted for M&I uses during a shortage. In these cases, even in a shortage year, excess canal capacity would be at or near the normal year level of 300,000 acre-feet.

A. Potential Classes of Wheeling Customers

In order to evaluate the priority approach, it may be useful to establish categories of potential wheeling customers. To the extent priorities are created, criteria should be established and applied to customer classes. For example, if the primary criterion is need, then categories should group customers with similar water supply needs. The

following is a list of potential wheeling customer categories. It is conceptual and not intended to suggest potential priorities.

- CAP subcontractors (M&I and Ag)
- Federal contractors (primarily Indian communities)
- Municipal or Industrial users without existing CAP subcontracts
- Irrigation districts without CAP subcontracts
- CAWCD
- Arizona Water Banking Authority
- CAGRD
- Others

B. Alternative Approaches

CAWCD may consider establishing priorities for use of some or all of the excess canal capacity for wheeling. There are several alternatives for establishing wheeling priorities. The list of alternatives does not imply preference among the alternatives. The alternatives are summarized below:

1. Existing subcontractor and contractor "right of first refusal" – existing long-term Project users have preferred access to excess canal capacity;
2. "First in time, first in right" – Those with the first need or resources necessary to wheel obtain access first;
3. Auction – Wheeling entities would bid for wheeling capacity;
4. Pro-rated – All wheeling entities would share priority; and
5. Priority allocation – CAWCD establishes priority based on criteria such as an entity's need for wheeled water, access to alternative supplies, etc.

Each alternative has its own set of issues. The existing subcontractors and contracts "right of first refusal" alternative assumes existing subcontractors and contractors have some ownership of excess canal capacity. However, as discussed previously, Project water users may not be the only stakeholders in the CAP system. Further, there is no implied or contractual right of ownership included in CAP delivery contracts. No users own specific canal capacity.

The "first in time" approach may not facilitate an orderly process and could allow some users needs to go unmet. The auction approach, while market based, may not be consistent with existing State and Federal laws. The pro-rated option provides a level playing field for all wheeling customers but implies an allocation of capacity at a fixed point in time. As such, the pro-rated option may not allow for future wheeling needs. The priority allocation alternative would require CAWCD to determine the criteria to establish priority and potentially determine an entity's needs.

Regardless of which alternative is selected, several issues may need to be addressed. The following issues may arise if priorities are developed.

1. Should canal capacity be reserved for future uses?
2. Are there different levels of reliability for wheeled water (firm vs. non-firm), and would the different levels have different priorities?
3. Should preference be established for the extent of wheeling (i.e. short wheeling distance vs. long wheeling distance, short term wheeling contracts vs. long-term wheeling)?

X. CLOSING COMMENTS

The issues associated with the use of excess canal capacity are complex and numerous. The Project Wheel Team expects to augment and further develop the issues described in this booklet at the Industry Brainstorming Session to be held on May 28th. Based on the research conducted to date, the results of the Industry Brainstorming Session and internal discussions, CAWCD expects to develop a white paper that will lay the foundation for potential action by the Board pertaining to the use of excess canal capacity. This white paper will be prepared for presentation at the August Board meeting.

APPENDIX – NEEDS SURVEY RESULTS

This appendix contains two reports that summarize the results of the needs survey.

1. Summary Report of Volumes Requested for Wheeling
2. Opinions Survey

Summary Report of Volumes Requested for Wheeling

Organization	*Secured Supply Name*	*Secured Supply Volume - Bottom Range*	*Secured Supply Volume - Top Range*	*Potential Supply Name*	*Potenial Supply Volume Bottom Range*	*Potential Supply Volume Top Range*
ADWR	N/A	0	0	N/A	0	0
Arizona-American Water Company	N/A	0	0	No response	3,000	44,000
ASLD	Butler Valley groundwater	100,000	100,000	N/A	0	0
CAGRD	Scottsdale WAS Contract	3,460	3,460	Colorado River water and western Arizona groundwater	20,000	200,000
Chandler, City of	Wellton-Mohawk water	0	4,278		0	0
Harquahala Generating Company	N/A	0	0	N/A	0	0

Organization	*Secured Supply Name*	*Secured Supply Volume - Bottom Range*	*Secured Supply Volume - Top Range*	*Potential Supply Name*	*Potential Supply Volume Bottom Range*	*Potential Supply Volume Top Range*
Johnson Utilities	N/A	0	0	N/A	0	0
Mazatzal Tree Farm	N/A	0	0	N/A	0	0
Mesa, City of	Groundwater in Pinal County	25,000	25,000	n/a	0	0
Metropolitan Domestic Water Improvement District	Secondary Treated Effluent	2,000	2,000	N/A	0	0
Metropolitan Domestic Water Improvement District	Groundwater extinguishment credits	24,000	24,000	N/A	0	0
Peoria, City of	N/A	0	0	Harquahala groundwater	2,000	6,000
Phoenix, City of	McMullen Valley groundwater	38,000	76,000	N/A	0	0

Organization	*Secured Supply Name*	*Secured Supply Volume - Bottom Range*	*Secured Supply Volume - Top Range*	*Potential Supply Name*	*Potenial Supply Volume Bottom Range*	*Potential Supply Volume Top Range*
Salt River Project	N/A	0	0	Colorado River water; groundwater	0	50,000
San Carlos Apache Tribe	N/A	0	0	RWCD groundwater storage or AWBA	0	8,000
Scottsdale, City of	Planet Ranch	15,000	15,000	Harquahala groundwater	0	0
Tonto Apache Tribe	N/A	0	0	AWBA or other source	1,500	1,500
Tucson Water	N/A	0	0	Pinal County groundwater	0	0
Tucson Water	N/A	0	0	Recovery of CAP water	0	0
Tucson Water	N/A	0	0	Avra Valley groundwater	0	0

Organization	*Secured Supply Name*	*Secured Supply Volume - Bottom Range*	*Secured Supply Volume - Top Range*	*Potential Supply Name*	*Potenial Supply Volume Bottom Range*	*Potential Supply Volume Top Range*
Vidler Water Company	Harquahala Valley groundwater	56,540	56,540	Harquahala groundwater basin	10,000	10,000
Yavapai-Apache Nation	N/A	0	0	AWBA or other source	5,000	5,000
Note: Adjustments were made to volume requests based on multiple parties claiming the same supply (e.g. Scottsdale, the CAGRD and Vidler all claimed approximately 3,000 acre-feet for Scottsdale).		264,000	306,278		41,500	324,500

Opinions Survey

Organization	*Reason for Wheeling Framework*	*Sign of Success*
ADWR	Non-CAP supplies may be offered by municipal water providers as a demonstration of assured or adequate water supply. To qualify for the legally available standard, applicant must show compliance with CAWCD wheeling policy or regulations if applicable.	Identification of legal limitations on wheeling. Also, physical parameters that limit aqueduct capacity availability. Priority to excess capacity--length of term for a wheeling contract.
Arizona-American Water Company	To evaluate supply alternatives need to know how much canal capacity will be allocated to non-project deliveries, what is the process for leasing capacity, what are the delivery constraints. Answers will affect supply decisions including GRD membership.	CAP Board policy that lays out the process by which CAP staff and Board would determine how available wheeling capacity is to be allocated among competing interests.
ASLD	Initiation of process for future planning.	Feasibility and economics of wheeling
CAGRD	Provide assurance that CAGRD has the ability to meet its replenishment obligations over the long-term. To the extent that CAGRD can get acces to canal capacity, the door remains open for continued enrollment (and vice versa).	Acknowledgement of CAGRD's needs and of its statutory and contractual obligations.
Chandler, City of	Bring certainty to cost, losses, and priority.	
Harquahala Generating Company	N/A	N/A
Johnson Utilities	N/A	N/A
Mazatzal Tree Farm	N/A	N/A

Organization	*Reason for Wheeling Framework*	*Sign of Success*
Mesa, City of	I need concrete wheeling policy to evaluate my options for development of this particular water supply.	A written, board-approved CAWCD wheeling policy that addresses canal capacity priorities, water quality standards and other relevant issues.
Metropolitan Domestic Water Improvement District	Supply [effluent] does not meet the quality needs of service area customers, therefore, looking for interested parties to lease effluent supply and/or exchange to Metro a CAP water supply.	CAP's schedule for achieving the implementation of a wheeling program, potential costs of program, potential parties interested in lease and/or exchanges, plus dates and volumes needed.
Metropolitan Domestic Water Improvement District	Current groundwater credits and CAP supplies are adequate for customer needs; therefore seeking interested parties to sell credits and/or exchange for CAP supplies.	CAP's schedule for achieving the implementation of a wheeling program, potential costs of program, potential parties interested in lease and/or exchanges, plus dates and volumes needed.
Peoria, City of	Prior to purchasing water supply--need ability to wheel imported water to ensure it's a viable alternative.	No response.
Phoenix, City of	We need assurance that we can use the CAP system to wheel McMullen Valley water when we need it.	A clear indication that we will have access to the CAP system for wheeling McMullen Valley water or some process to achieve such a commitment.
Salt River Project	Provide certainty for ability to wheel water in the CAP canal. Will affect decision making on securing water supplies and on exchange opportunities.	Additional perspective on where, when and how much CAP wheeling capacity might be available in the future.
San Carlos Apache Tribe	To determine the feasibility, availability and costs associated.	No response.
Scottsdale, City of	Avoid complex discussions (i.e., CAGRD arrangements) needed for assured water supply purposes.	Relative priority of these supplies related to CAGRD and AWBA; framework wheeling agreements; cost estimate for wheeling water.

Organization	*Reason for Wheeling Framework*	*Sign of Success*
Tonto Apache Tribe	To determine the feasibility, availability and costs associated.	No response.
Tucson Water	We would like to begin the development of a wheeling framework not because our desire to wheel Avra Valley groundwater through the CAP system could be as early as within the next three years.	Provide the ability to wheel non-Project water while avoiding priority conflicts with delivery of existing and future municipal allocations. Wheeling of non-project water should be based on full cost recovery, not subsidized.
Vidler Water Company	For delivery of our water resources to entities that currently have a need for the resource.	A procedure on wheeling non-project water, which would then allow us to implement our business plan.
Yavapai-Apache Nation	To determine the feasibility, availability and costs associated.	No response.