

RECOVERY AGREEMENT  
AMONG  
ARIZONA WATER BANKING AUTHORITY, CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT, SOUTHERN NEVADA WATER AUTHORITY AND  
COLORADO RIVER COMMISSION OF NEVADA

This Recovery Agreement is made this 9<sup>th</sup> day of JUNE, 2010, among the Arizona Water Banking Authority ("AWBA"), Central Arizona Water Conservation District ("CAWCD"), Southern Nevada Water Authority ("SNWA") and Colorado River Commission of Nevada ("CRCN") in order to address some details of the "recovery of intrastate and interstate Long-term Storage Credits" as contemplated by the Second Amended Agreement for Interstate Water Banking Among the AWBA, SNWA and CRCN ("Interstate Water Banking Agreement").

1. This Recovery Agreement shall be interpreted at all times to be in compliance with the Interstate Water Banking Agreement, the Storage and Interstate Release Agreement between the Secretary of the Interior, AWBA, SNWA and CRCN, dated December 18, 2002, and the Agreement for the Development of Intentionally Created Unused Apportionment between AWBA and CAWCD, dated December 18, 2002 (collectively, the "Agreements"), even as those Agreements may be amended in the future. In the event the terms of this Recovery Agreement are in conflict with the Agreements, the Agreements are controlling.
2. Relevant provisions of the Interstate Water Banking Agreement include but are not limited to the following provisions, which provide as follows:
  - a. Subarticle 1.1.15 provides that " 'Recovery Facilities' shall mean constructed facilities capable of recovering both intrastate and interstate Long-term Storage Credits."
  - b. Subarticle 1.1.13 provides that " 'Long-term Storage Credit' shall mean Long-term Storage Credit as defined in A.R.S. § 45-802.01(11)."
  - c. Subarticle 1.1.20 provides that " 'Storage Facility' or 'Storage Facilities' shall mean an Underground Storage Facility or a Groundwater Savings Facility as those terms are defined in A.R.S. § 45-802.01."
  - d. Subarticle 1.1.12 provides that " 'Interstate Recovery Schedule' shall have the meaning defined in the Agreement for Development of Intentionally Created Unused Apportionment."
  - e. Subarticle 1.2.1 provides that "This Agreement is among AWBA and SNWA and CRCN. It is intended to create a program of interstate banking of Colorado river water. AWBA will not engage in interstate banking to the detriment of any water user in Arizona in fulfilling its obligations under this Agreement. "

- f. Subarticle 1.2.3 provides that “No ownership rights in specific storage facilities shall accrue to either SNWA or CRCN by this Agreement.”
- g. Subarticle 3.1.1 provides that “SNWA shall have the right to require the recovery of Long-term Storage Credits in the SNWA Interstate Account and the development of ICUA in any Year . . .”
- h. Subarticle 3.1.2 provides that “During any Year as to which the Secretary has determined under Article II(B)(3) of the Consolidated Decree that a shortage condition exists...”
- i. Subarticle 3.2.1 provides that “For any year in which SNWA will require development of ICUA by AWBA and the release of ICUA by the Secretary, SNWA shall confer with the AWBA prior to June 1 of the preceding Year and provide notice of the amount of such ICUA to AWBA by June 1 of the preceding Year.”
- j. Subarticle 3.2.2 provides that “Between June 1 and September 15 of the Year in which a notice has been given under Subarticle 3.2.1, AWBA staff shall meet and confer with SNWA concerning the proposed location, manner and estimated cost of the development of the specified ICUA.”
- k. Subarticle 3.2.3 provides that “On or before September 15 of the Year in which a notice for the development of ICUA has been given to AWBA under Subarticle 3.2.1, or as otherwise required by the Secretary, SNWA shall make a request of the Secretary for the release of such ICUA during the following Year and shall provide a copy of such notice to AWBA.”
- l. Subarticle 3.3.1 provides that “Upon receipt of a notice under 3.2.1 for the development of ICUA, AWBA shall meet and confer with CAWCD to develop an Interstate Recovery Schedule under the terms of the Agreement for the Development of Intentionally Created Unused Apportionment. The Interstate Recovery Schedule shall utilize the recovery of Long-term Storage Credits to develop ICUA through recovery methods identified in the corresponding Storage and Interstate Release Agreement. These methods include recovery and exchange of Long-term Storage Credits for Colorado River Water and/or credit exchange of Long-term Storage Credits for Colorado River Water that would have otherwise been delivered for underground storage in that year.”
- m. Subarticle 3.3.1.3 provides that “Factors to be considered when preparing the Interstate Recovery Schedule shall include, but are not limited to:
  - 3.3.1.3.1 Arizona water management goals,
  - 3.3.1.3.2 CAP operational requirements,
  - 3.3.1.3.3 Water Quality requirements,
  - 3.3.1.3.4 Opportunities for shared or joint facilities, and
  - 3.3.1.3.5 Opportunities to reduce recovery costs.”

- n. Subarticle 3.4.3 provides that "SNWA shall specify in its notice given under Subarticle 3.2.1 if, and the extent to which, ICUA is to be developed through the recovery of Long-term Storage Credits previously held by CAWCD for the benefit of SNWA under its October 15, 1992 agreement with The Metropolitan Water District of Southern California. The Parties acknowledge that pursuant to the terms of such agreement and prior to the effective date of the Original Agreement, SNWA made advance payments of the entire cost to recover such credits and to develop such ICUA."
3. Relevant provisions of the Agreement for the Development of Intentionally Created Unused Apportionment between the AWBA and CAWCD provide as follows:
- a. Subarticle 3.1 provides that "An Interstate Recovery Schedule shall set forth the means by which CAWCD plans to create ICUA on behalf of AWBA in any Year. Except as provided in Article 3.2, an Interstate Recovery Schedule shall use the recovery and exchange method, the credit exchange method, or both of these two methods to develop ICUA."
  - b. Subarticle 3.2 provides that "An Interstate Recovery Schedule may use a method other than the recovery and exchange method and the credit exchange method if that method complies with 43 CFR Part 414 and if the Secretary has approved its use."
  - c. Subarticle 3.3 provides that "The recovery and exchange method requires that Long-term Storage Credits in the SNWA Interstate Account be recovered and the recovered water exchanged for Colorado River water that would otherwise have been delivered through the CAP in that Year."
    - 3.3.1 An Interstate Recovery Schedule may provide that CAWCD recover Long-term Storage Credits assigned by AWBA and deliver the recovered water that would have been delivered by CAWCD in that Year.
    - 3.3.2 An Interstate Recovery Schedule may provide that Long-term Storage Credits assigned by AWBA to CAWCD be assigned by CAWCD to an entity scheduled to receive CAP water from CAWCD in that Year for recovery and use by that entity in place of CAP water that would have been delivered by CAWCD in that Year.
    - 3.3.3 If the recovery and exchange method will be used to develop ICUA in a Year, an Interstate Recovery Schedule shall demonstrate that there is sufficient recovery capacity to recover the necessary Long-term Storage Credits from the SNWA Interstate Account and shall describe how the Credits will be recovered and delivered through the CAP or how the Credits will be recovered by individual CAP customers in lieu of their scheduled CAP deliveries."
  - d. Subarticle 3.4 provides that "The credit exchange method requires that Long-term Storage Credits in the SNWA Interstate Account be exchanged for Colorado

River water that would otherwise have been delivered through the CAP for underground storage in that Year. The recipient of the Credits shall be an entity scheduled to receive water from CAWCD for purposes of underground storage in that Year.

3.4.1 The entity receiving Long-term Storage Credits under the credit exchange method shall be required to pay CAWCD the same fees and charges that it would have paid had CAP water been delivered to it for underground storage.

3.4.2 If the credit exchange method will be used to develop ICUA in a Year, an Interstate Recovery Schedule shall demonstrate that CAWCD has received sufficient orders for the delivery of Colorado River water for underground storage and shall identify the entity or entities accepting the transfer of Long-term Storage Credits in lieu of the delivery of Colorado River water.”

e. Subarticle 3.5 provides that “If a method other than the recovery and exchange method or credit exchange method is used to develop ICUA, an Interstate Recovery Schedule shall include such information as required by the Secretary for that method.”

f. Subarticle 3.6 provides that “An Interstate Recovery Schedule shall identify the total quantity of Long-term Storage Credits to be assigned to CAWCD by AWBA from the SNWA Interstate Account to develop the quantity of ICUA needed for the following Year.”

#### 4. Cooperative Planning for Timing, Amount, Methods, and Costs of Recovery

In order to facilitate timely and effective performance of the above-stated relevant provisions, the parties to this Recovery Agreement, agree as follows:

a. Cooperative Planning. The parties now anticipate that SNWA recovery will be required on or after 2018. The parties agree that since significant lead time is needed to construct and initiate operations of new recovery wells and that sound financial, construction and operations practices require deferral of construction and operation of recovery facilities until closer in time to when recovery wells are needed, the parties agree to meet annually, beginning in the first quarter of 2015 or in the year in which the Annual Operating Plan projects end of year Lake Mead at or below elevation 1075 feet to discuss:

i. The timing and magnitude of SNWA’s recovery requests.

ii. CAWCD’s available and planned recovery capacity.

iii. CAWCD’s current estimates of recovery capital and operations costs.

- iv. The effects of potential shortages of Colorado River water on such requests, capacity and costs.
- b. Recovery Schedules. SNWA shall present an initial recovery request schedule in the first such annual meeting and shall provide any amendment thereto at least three years prior to any recovery year for which the initial recovery request is proposed to be amended.
- c. Use of Recovery Facilities. The parties also now anticipate that CAWCD's recovery capacity may be utilized for parties other than SNWA on a schedule inconsistent with SNWA's initial recovery request schedule. Inasmuch as sound financial, construction and operations practices require at least minimal operations of recovery facilities once operation is initiated, the parties agree to discuss and amend any proposed recovery request schedule as may be required to maintain the sound operating condition of CAWCD's recovery facilities.
- d. Recovery Methods Involving Recovery and Exchange of Long-term Storage Credits for Colorado River Water.
  - i. Capital Costs of Recovery Facilities. Capital costs for developing recovery facilities include the costs of planning, permitting, design and construction, as well as any cost of construction financing. According to the Interstate Water Banking Agreement, capital costs may be borne exclusively by SNWA, payable in advance if recovery facilities are dedicated exclusively to recovery for SNWA, or may be borne proratably by multiple interstate or intrastate users of the same recovery facilities. Additional information, including methods for calculating capital costs, is set forth in as Example A in the Appendix to this Agreement.

The parties agree that, in each annual meeting in which SNWA's initial or amended recovery request schedule is discussed, the parties shall disclose all available information regarding their best estimates of the costs of planning, permitting, design, construction and construction financing and the plans and intentions of any other party who may seek recovery utilizing CAWCD's recovery facilities.

- ii. Operating Costs of Recovery Facilities. Operating costs for the operation of recovery facilities include the cost of electrical power used to pump water for delivery to a CAWCD customer or into the Central Arizona Project delivery system, and the cost of repair and maintenance of the well site, motors, pumps, discharge lines, and electrical facilities. Operating costs exist whether CAWCD's recovery facilities are newly constructed for the intended recovery purpose or are existing wells which share operations as recovery wells and water supply production wells. Additional information and examples of operating costs of recovery facilities are set forth in Example B in the Appendix to this Agreement.

The parties agree that, in each annual meeting in which SNWA's initial or amended recovery request is discussed, the parties shall disclose their best estimates of the costs of electrical power, recognizing that estimates of such costs are prone to gross uncertainty with respect to distant years, and their best estimates of the repair and maintenance costs of anticipated recovery facilities. The parties agree that they shall explore cost-avoidance strategies, including any means which may be available to any of them that would reduce the costs of electrical power, or the repair and maintenance costs of anticipated recovery facilities, including the substitution of direct delivery of Colorado River water in lieu of recovery of stored water in central Arizona.

- e. Credit Exchange for Long-term Storage Credits for Colorado River Water. Multiple interstate or intrastate users of the Arizona Water Banking system now maintain Long-term Storage Credit balances with the Arizona Water Bank and may seek recovery of those credits on recovery request schedules that are similar to or varied from SNWA's initial or amended recovery request schedule. The parties agree, that in each annual meeting in which SNWA's initial or amended recovery request schedule is discussed, that the parties shall disclose any available information regarding the recovery request schedules of other interstate or intrastate users of the Arizona Water Banking system, and the existence of any opportunities for the integration of recovery request schedules, including through the exchange of existing Long-term Storage Credit balances for the right to direct delivery of Colorado River water, so as to minimize recovery costs. The parties agree that any administrative costs, as contemplated by the Interstate Water Banking Agreement would not be avoided by such credit exchanges.
- f. Costs Avoided. Recovery strategies identified by the parties in the course of annual meetings, and utilized or integrated into initial or amended recovery request schedules may avoid costs which would have otherwise been incurred in the normal costs of operation of facilities by any one or more of the parties. The parties agree that the actual annual value of those avoided costs shall be set off against SNWA's actual annual recovery costs due in any year under the Agreement for Interstate Water Banking, as it may be amended from time to time, but shall give SNWA no credit beyond the actual annual recovery costs due in any year. Additional information and examples of costs avoided are set forth in Example C in the Appendix to the Agreement.
- g. Cost Payments. The parties agree that CAWCD and SNWA may enter into a separate agreement to address financial issues related to the costs of recovery, including, but not limited to capital costs for recovery facilities and operating costs of recovery facilities.
- h. Exception to Article 3.5 and 5.6.2. Notwithstanding the provisions of article 3.5 and 5.6.2 of the Interstate Water Banking Agreement, for any agreement entered into pursuant to subsection g, the charges to SNWA outlined in subarticles

3.4.2.1, 3.4.2.2 and 3.4.2.4 of the Interstate Water Banking Agreement shall be paid by SNWA directly to CAWCD.

5. Termination

This Recovery Agreement shall terminate upon termination of the Interstate Water Banking Agreement, or as mutually agreed by all parties in writing.

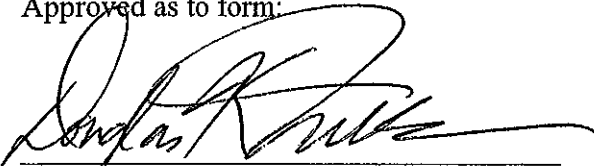
In Witness of this Agreement, the Parties affix their official signatures below.

CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT

DATE 6-2-10

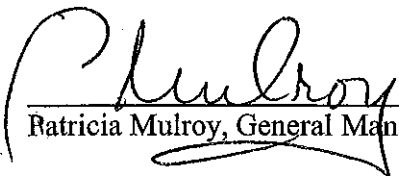
  
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David V. Modest, General Manager

Approved as to form:

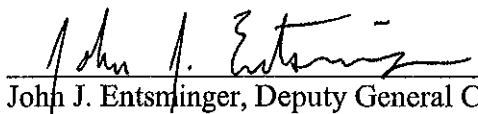
  
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Douglas K. Miller, General Counsel

SOUTHERN NEVADA WATER  
AUTHORITY

DATE 5-12-10

  
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Patricia Mulroy, General Manager

Approved as to form:

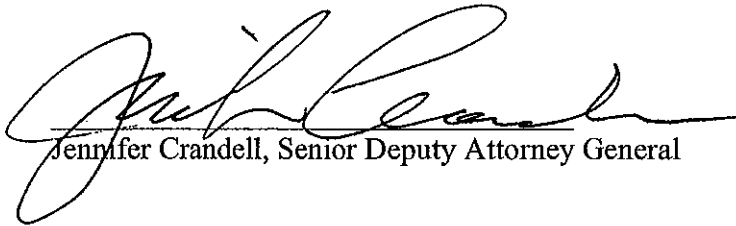
  
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John J. Entsminger, Deputy General Counsel

COLORADO RIVER COMMISSION OF  
NEVADA

DATE 5/20/10

  
George M. Caan, Executive Director

Approved as to form:


  
Jennifer Crandell, Senior Deputy Attorney General

ARIZONA WATER BANKING  
AUTHORITY

DATE 6/9/10

  
Herbert R. Guenther, Chair

Attest:

  
Thomas Buschatzke, Secretary



Appendix to  
Recovery Agreement with SNWA

Recovery Cost Example Calculations

The examples shown below are intended to provide additional guidance for administration of the Recovery Agreement. The examples are not intended to be the sole and binding methodology. All parties recognize new opportunities or new methods may be identified over the term of the Recovery Agreement.

**Example A**

**Capital Costs of Recovery Facilities**

The Interstate Water Banking Agreement provides that SNWA will pay for all costs of recovery, including costs to develop recovery facilities. The capital costs for developing recovery facilities include planning, permitting, design, and construction costs. It is contemplated that CAWCD could finance the initial construction of recovery facilities and collect a capital recovery fee over the appropriate recovery period, or that SNWA could provide the financing for initial construction. If SNWA pays “up front” the facilities will be “dedicated” to SNWA recovery – i.e., that SNWA would have first priority use for recovery of SNWA banked water over recovery of other water.

If a specific set of recovery facilities is projected to be used entirely or almost entirely for recovery of SNWA credits, then SNWA would be expected to finance the entire cost for those facilities. If the facilities were expected to serve both SNWA and other CAWCD/AWBA recovery purposes, then initial capital costs could be shared in an appropriate fashion. For example, if a new recovery well facility was to be constructed in Pinal County to recover primarily SNWA credits for the first 20 years, then to recover credits for the Central Arizona Groundwater Replenishment District (CAGR), it is anticipated that the costs will be financed primarily by SNWA. CAWCD will manage the work from planning through start-up. CAWCD could share, prorata on planned use, the costs of planning, permitting and design. SNWA would pay for construction, pumps, motors, associated electrical facilities, and any water delivery or other facilities needed. When the facilities are no longer needed for SNWA recovery, CAWCD will pay SNWA the remaining unamortized value for the installed facilities. The terms, service life, and interest rates for amortization will be agreed upon during the project planning phase. If CAWCD uses the recovery facilities during the period that SNWA has first right for use, CAWCD will pay an appropriate use rate per acre-foot of recovery.

## Example B

### Recovery Facility Operating Costs

After the first 50,000 af are recovered, as provided in the October 15, 1992 Agreement, SNWA will pay the operating and maintenance (O&M) costs for recovery. It is presumed to be on a cost per acre-foot basis. Typically, operating costs include the annual cost of maintenance of the well site, motors, pumps, discharge lines, and electrical facilities, including appropriate repairs. The other operating cost is the cost of electrical power used to pump the water for delivery to a customer or into the CAP delivery system. These costs exist for the newly constructed recovery facilities or existing wells that are shared as recovery wells and water supply production wells.

During 2009 CAWCD used recovery wells shared with irrigation districts. The experience was that O&M, including repairs, on shared wells was approximately \$20/af. These costs are primarily labor and materials and can be estimated and accounted for in a straightforward manner. Power costs may have more options. In 2009 the shared, refurbished recovery wells were served by electrical districts (ED) or other large-scale energy providers. CAWCD paid the energy costs to pump the wells for recovery purposes. However, CAWCD has the authority to make arrangements to provide Navajo power to the recovery sites. While Navajo power is anticipated to be lower cost, it requires special delivery, transmission or exchange arrangements to be delivered over non-CAP facilities into some other entity's service area. In any event, for water recovered for SNWA, the actual cost for power delivered to the well site will be paid.

## Example C

### Net Recovery Costs or Costs Avoided

Net recovery costs or costs avoided should be considered in determining SNWA recovery costs. It would have cost CAWCD a specified amount of electrical energy, approximately 1.8 mwh/af, to deliver water from the Colorado River to the Pinal County area. In 2009 the energy requirement for recovery of groundwater in Pinal County was about one-half of that amount -- .90 to 1.0 mwh/af. It is possible that if Navajo power could be made available to the recovery site with minimal additional transmission costs, the energy savings might offset some of the well site fixed O&M. For example:

Well site O&M	\$20/af	Cost for delivery from Colorado River
Energy 1.0mwh X \$40	<u>\$40/af</u>	1.8mwh/\$25/wh=\$45/af
	\$60/af	

Net cost of recovery vs. pumping from Colorado River = \$15/af

There are other instances where recovery costs could be very low. One example is accomplished through credit exchange. CAWCD, in partnership with CAGRDR, could forego a planned delivery to a direct storage facility needed to fulfill a CAGRDR replenishment obligation by giving the CAGRDR SNWA credits to use to meet that obligation. No actual wet water recovery is performed and no direct recovery costs are incurred. Another example exchange could occur with a customer such as Tucson who recharges and recovers CAP water annually as part of the treatment and delivery process. If SNWA credits were earned through storage at a Tucson recharge facility, credits could be provided to Tucson in exchange for CAP water scheduled for delivery. That water would then be forborne for SNWA use at Lake Mead. In this example, there are no incremental recovery costs incurred by Tucson and no direct recovery costs for SNWA.

It is expected that in both examples cited above, that the entity receiving credits in lieu of CAP delivery would pay the regular contract rate to CAWCD for water delivery. CAWCD, and its customers, would experience some savings in the cost of energy not needed to deliver the water from the Colorado River. SNWA would pay no direct recovery costs to CAWCD but might pay appropriate administrative costs to the AWBA.