

COPY

MEMORANDUM OF UNDERSTANDING AMONG  
THE UNITED STATES OF AMERICA, THROUGH THE  
DEPARTMENT OF THE INTERIOR,  
BUREAU OF RECLAMATION,  
THE CENTRAL ARIZONA WATER CONSERVATION DISTRICT,  
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA,  
THE SOUTHERN NEVADA WATER AUTHORITY,  
THE ARIZONA DEPARTMENT OF WATER RESOURCES,  
THE COLORADO RIVER BOARD OF CALIFORNIA  
AND  
THE COLORADO RIVER COMMISSION OF NEVADA  
FOR PILOT DROUGHT RESPONSE ACTIONS

I. PARTICIPANTS

This Memorandum of Understanding, (hereinafter referred to as “MOU”), is made and entered into this 10<sup>th</sup> day of December 2014 (“Effective Date”), by and between the UNITED STATES OF AMERICA (“United States”) represented by the Secretary of the Interior (“Secretary”) acting through the Bureau of Reclamation (“Reclamation”), the CENTRAL ARIZONA WATER CONSERVATION DISTRICT, a multi-county water conservation district duly organized and existing under the laws of the State of Arizona (“CAWCD”), THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, a regional public water district duly organized under California law (“MWD”), and the SOUTHERN NEVADA WATER AUTHORITY, a political subdivision of the State of Nevada (“SNWA”, and together with CAWCD and MWD, the “Municipal Water Agencies”). The ARIZONA DEPARTMENT OF WATER RESOURCES, an agency of the State of Arizona acting pursuant to A.R.S. Section 45-107 (“ADWR”), the COLORADO RIVER BOARD OF CALIFORNIA, an agency created under California Water Code Sections 12500-12541 (“CRB”), and the COLORADO RIVER COMMISSION OF NEVADA, an agency of the State of Nevada under NRS Sections 538.041 to 538.251 (“CRCN”), are participants to this MOU for purposes of Sections II., III.E, IV, and V. Additional entities that may be of assistance in implementing drought response actions

contemplated by this MOU may be added from time to time in the manner set forth in Section IV.B.

## II. RECITALS

A. WHEREAS, in December 2007, the Secretary executed the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (“2007 Guidelines”) for implementing the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act;

B. WHEREAS, the Colorado River System suffers from the effects of a drought that began 15 years ago, leading to substantially decreased water elevation levels in both Lakes Mead and Powell;

C. WHEREAS, Colorado River System modeling projections show increasing near-term risk that water elevations in both Lakes Mead and Powell could decline to levels that would not only trigger shortage conditions in Lake Mead operations as set forth in the 2007 Guidelines, but could also impact the ability to draw or benefit from water in the lakes, including severely impacting hydropower resources;

D. WHEREAS, in December 2012, Reclamation and the seven Colorado River Basin States completed the Colorado River Basin Water Supply and Demand Study (“Basin Study”), with the purpose of defining future imbalances in water supply and demand in the Colorado River System through the year 2060, and developing and analyzing options and strategies to resolve those imbalances. The Basin Study concludes that without further proactive actions, there may be a long-term potentially significant imbalance in future water supply and demand. Options to address these imbalances include, without limitation, augmentation of the system and increased agricultural and municipal water conservation;

E. WHEREAS, water agencies in the Colorado River Basin provide water to over 30 million residents in the United States, meeting basic human needs and sustaining vital economic functions regionally and nationally. Based on their many shared interests, the Municipal Water Agencies and other agencies within the Colorado River Basin have worked together for over 20 years on initiatives to develop water supplies, manage demand through conservation, and operate facilities to use Colorado River System water for the benefit of multiple interests;

F. WHEREAS, all CAWCD municipal customers supplied by the Central Arizona Project, including Phoenix and Tucson, have been successful in reducing per capita consumption by making significant investments in conservation, reuse, and infrastructure. The City of Phoenix has reduced water use by 35 percent since 1980, while approximately 97 percent of the City of Scottsdale's reclaimed water is reused for turf irrigation or recharge efforts. CAWCD municipal customers remain committed to expand these investments;

G. WHEREAS, in MWD's service area, southern California urban agencies have funded a wide variety of agricultural and urban conservation measures that have allowed the State of California to reduce its use of Colorado River water by 20 percent since 2002. In addition, through investments in water conservation and local supply management, including recycling, urban southern California imports less water today than it did 20 years ago, despite a significant increase in the region's population. MWD remains committed to expand these efforts;

H. WHEREAS, through significant investment in a variety of aggressive conservation measures, SNWA's annual consumptive use of water from the Colorado River decreased by nearly 100,000 acre-feet between 2002 and 2013, despite a population increase of 480,000 people over that same period. This equates to a reduction of approximately 30 percent in southern Nevada's gallons per capita per day demand. Southern Nevada currently reclaims

nearly all of its wastewater, either through Colorado River return flow credits or direct reuse. SNWA remains committed to expand these efforts;

I. WHEREAS, the Municipal Water Agencies and Reclamation provided funding for design and construction of the Warren H. Brock (Drop 2) Reservoir that saves approximately 70,000 acre-feet of water annually; provided funding for a pilot project for operation of the Yuma Desalting Plant from May 2010 to March 2011, which conserved over 30,000 acre-feet; and agreed to contribute capital for the pilot program of water infrastructure improvements in Mexico to conserve water, in exchange for 124,000 acre-feet of water;

J. WHEREAS, MWD and SNWA have used Extraordinary Conservation, Imported, and Tributary Conservation Intentionally Created Surplus (“ICS”) programs to fund conservation programs resulting in a total of more than one-half million acre-feet of conserved water stored in Lake Mead at the beginning of 2014;

K. WHEREAS, the United States acting through Reclamation, the Municipal Water Agencies, and Denver Water, separate and apart from this MOU, entered into an agreement for a Pilot Program for Funding the Creation of Colorado River System Water Through Voluntary Water Conservation and Reductions in Use dated July 30, 2014 (“System Conservation Pilot”) in an effort to examine the efficacy of basin-wide solutions to the increasing near-term risk that Lakes Powell and Mead could continue to decline. For the first time, the parties in the System Conservation Pilot committed to spending up to \$11,000,000 during the next two years to develop water for the system rather than any individual user. Reclamation and the Municipal Water Agencies recognize that measures in addition to those contemplated by the System Conservation Pilot are needed in both the short and long term;

L. WHEREAS, in addition to the actions identified above, the States of California, Arizona, and Nevada (the “Lower Division States”) and a number of water users located in those states (together with the Lower Division States, the “Lower Division States and Water Users”)

have worked cooperatively with the Secretary and Reclamation since 2013 to identify approaches and additional voluntary proactive measures that federal, state and local entities can take in a coordinated fashion to plan for and respond to drought and address long-term supply and demand sustainability in the Lower Basin;

M. WHEREAS, a fundamental component of Lower Basin drought contingency planning is voluntary development of additional quantities of water stored in Colorado River reservoirs, in particular Lake Mead, necessary to reduce the risk of Lake Mead reaching critical reservoir elevations (“Protection Volume(s)”). From those cooperative discussions, the Lower Division States and Water Users identified the goal of developing between 1.5 and 3.0 million acre-feet of Protection Volume between 2014 and 2019. Protection Volumes could be generated, for example, through new or expanded programs to create ICS (as such term is defined in the 2007 Guidelines), reductions in water use, reductions in off-stream storage of Colorado River water, or other actions that result in increased Lake Mead elevations; and

N. WHEREAS, Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN desire pursuant to the terms of this MOU to work among the Lower Division States and Water Users to reduce the risks associated with the ongoing historic drought in the Colorado River Basin.

THEREFORE, mindful of the circumstances outlined in these Recitals, Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN express their mutual understanding as follows:

### III. PILOT DROUGHT RESPONSE ACTIONS

#### A. PURPOSE

Reclamation and the Municipal Water Agencies desire to take initial steps between 2014 and 2017 towards generating additional water in Lake Mead to reduce the risk of reaching

critical reservoir elevations in a manner consistent with the Law of the River including, but not limited to, the Consolidated Decree in *Arizona v. California*, 547 U.S. 150 (2006) and the 2007 Guidelines.

B. PROTECTION VOLUMES

i. Working together, Reclamation and the Municipal Water Agencies will use their best efforts to create Protection Volumes between 2014 and 2017, as set forth in more detail in this MOU. Some methods of creating Protection Volumes may already be in use, but the creation of Protection Volumes may involve expansion, additions or changes to existing methods or programs, as appropriate.

ii. SNWA will use best efforts to create 45,000 acre-feet of Protection Volume between 2014 and 2017. SNWA may use a combination of the following to create Protection Volumes: restarting Coyote Spring Valley groundwater deliveries to Lake Mead, recovery of banked groundwater in Arizona or Nevada, additional leases or purchases of Muddy or Virgin River water rights, and reductions in off-stream storage of Colorado River water.

iii. CAWCD will use best efforts to create 345,000 acre-feet of Protection Volume between 2014 and 2017. CAWCD may intentionally create system water and anticipates using creation of Extraordinary Conservation ICS to create Protection Volumes.

iv. MWD will use best efforts to create 300,000 acre-feet of Protection Volume between 2014 and 2017 for the dual purpose of providing short-term drought relief in California and reducing the likelihood of Lake Mead reaching critical reservoir elevations. MWD may fund conservation projects to create or defer delivery of ICS water to create Protection Volumes. To meet these Protection Volumes, MWD will need flexibility during low reservoir conditions.

v. Reclamation will use best efforts to create 50,000 acre-feet of Protection Volume between 2014 and 2017 that will be dedicated as system water. Reclamation is

anticipated to use a combination of the following to create Protection Volumes: efficiency improvements, operational improvements, and creation of system water.

vi. Reclamation and the Municipal Water Agencies will consult on the suitability and appropriateness of adding additional mechanisms to create Protection Volumes, if and when such mechanisms are identified.

C. MISCELLANEOUS PROTECTION VOLUME TERMS

Water generated through the initial funding of \$11 million for the System Conservation Pilot will not be counted towards Reclamation's and the Municipal Water Agencies' Protection Volumes; provided, however, Reclamation and the Municipal Water Agencies may agree that upon any expansion of the System Conservation Pilot, water generated through such expansion may be counted towards Reclamation's and the Municipal Water Agencies' Protection Volumes in any proportion agreed upon by Reclamation and the Municipal Water Agencies.

D. IDENTIFICATION AND TRACKING OF PROTECTION VOLUMES

Reclamation and the Municipal Water Agencies will work together to identify and track achievement of Protection Volume goals set forth in Section III.B of this MOU, and will consult at least annually to discuss actions taken under this MOU.

E. FURTHER ASSURANCES

Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN will cooperate with the others, and with any additional participants that are included in the MOU pursuant to Section IV.B, as appropriate, to implement voluntary actions undertaken to create Protection Volumes. From time to time, and when requested, Reclamation and the Municipal Water Agencies will share information about the identification and tracking of Protection Volumes with the Lower Division States and Water Users and the Upper Division States. Reclamation and the Municipal Water Agencies will consult at least annually with ADWR, CRB, and CRCN to discuss actions taken under this MOU.

F. URGENT NEEDS

If any Municipal Water Agency is faced with operating conditions that have the potential to adversely affect its ability to meet Direct Delivery Domestic Use needs, as defined in the 2007 Guidelines, a consultation will be initiated as requested by any Municipal Water Agency to discuss ways to address such potential impacts.

IV. FURTHER ACTIONS AND ASSISTANCE OF OTHER ENTITIES

A. CONSULTATION

Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN recognize that voluntary actions by other entities from each of the Lower Division States will be essential to implement and build on the voluntary actions identified in this MOU. In addition to consulting with each other, Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN agree to seek the participation of additional entities within the Lower Division States at the times and for the purposes set forth below:

i. Implementation of Additional Drought Response Actions: After gaining experience related to the successes and challenges associated with voluntary actions to create Protection Volumes, Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN agree to initiate consultation not later than August 2016 with the specific objective of developing additional Protection Volumes, by extending, revising or adding to the activities implemented in this MOU.

ii. Planning to Address Long Term Sustainability: Voluntary actions identified in Section III.B of this MOU represent and contain elements of both drought response and sustainability actions. Notwithstanding the importance of implementing these voluntary actions, Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN recognize that additional actions among Reclamation and the Lower Division States and Water Users will be



needed to address the existing water supply and demand imbalance and long-term sustainability of the Colorado River system within the Lower Basin, and will necessarily include additional flexibility for water users during low reservoir conditions. It is with this recognition that Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN commit, throughout the term of this MOU, to continued and increased focus on identifying and addressing these concerns and will discuss the progress of discussions related to the prioritization, funding and implementation for such additional actions during the August 2016 consultation process with the goal of implementing additional actions prior to 2020. In addition to these consultations, Reclamation will work to plan and implement actions to replace, recover and reduce system losses from the Colorado River System.

iii. Initiating Further Drought Response Actions: In any year that Lake Mead is projected, based on the Minimum Probable forecast contained in the April 24-Month Study, to be at or below 1,060 feet on December 31st of that year, Reclamation will request that the Lower Division States and Water Users immediately reinstate consultations with the specific objective of identifying additional actions to significantly reduce the potential of reaching Lake Mead elevation 1,020 feet and initiating actions to begin to achieve that objective by December 31st of that year.

iv. Revisiting Necessity for Drought Response Actions: In any year that Lake Mead is projected, based on the Most Probable forecast contained in the April 24-Month Study, to be above 1,105 feet on December 31st of that year, Reclamation will reinstate consultations, with the specific objective of revisiting whether it is appropriate to continue, revise, or terminate ongoing drought response actions.

B. ADDITIONAL PARTICIPANTS

Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN acknowledge that other entities may be of assistance from time to time in the generation of Protection Volumes

contemplated hereunder, and agree that such entities may upon approval of Reclamation, the Municipal Water Agencies, ADWR, CRB, and CRCN which approval shall not be unreasonably withheld, become participants in this MOU for purposes of activities set forth in Section III.E, this Section IV, and Section V; provided, however, the addition of such entities shall not materially alter the terms of this MOU.

V. GENERAL PROVISIONS

A. This MOU will become effective upon the date set forth in Article I of this MOU (the Effective Date) and will remain in effect until December 31, 2019 (“Term”).

B. Nothing in this MOU is intended to or shall be construed to limit or affect in any way the authority or legal responsibilities of any participant. Nothing in this MOU binds any participant to perform beyond their respective authorities.

C. Nothing in this MOU may be construed to obligate Reclamation, the United States, any Municipal Water Agency, ADWR, CRB, or CRCN to any current or future expenditure of resources in advance of the availability of appropriations. Nor does this MOU obligate Reclamation, any Municipal Water Agency, ADWR, CRB, or CRCN to spend funds on any particular project or purpose, even if funds are available.

D. The mission requirements, funding, personnel, and other priorities of the participants may affect their ability to undertake actions to achieve the goals identified in this MOU.

E. Specific activities that involve the transfer of money, services, or property between Reclamation and another participant are not contemplated under the scope of this MOU. To the extent that any such activities are subsequently considered between or among any of the participants, execution of separate agreements or contracts will be required.

F. Nothing in this MOU is intended to or shall be construed to restrict the participants from participating in similar activities or arrangements with other public or private agencies, organizations, or individuals.

G. This MOU is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any person or entity against any participant, including a participant's Departments, Agencies, entities, officers, employees, or agents.

H. Any information furnished between the participants under this MOU may be subject to the Freedom of Information Act, 5 U.S.C. § 552, et seq. (FOIA) and respective state authorities. Reclamation and the other participants agree to consult each other regarding any such relevant requests and prior to releasing potentially privileged or exempt documents.

I. This MOU is subject, as applicable, to the laws of the United States of America.

J. All cooperative work under the provisions of this MOU will be accomplished without discrimination against any employee because of race, sex, creed, color, national origin, or any other legally protected class as identified in Federal or applicable state law.

K. This MOU shall remain in effect for an initial term as set forth in this MOU and may be renewed if the participants agree.

L. Each participant in this MOU will consult with the other participants in a timely manner to ensure coordination prior to release of any written statements intended for widespread publication that refer to this MOU.

M. Nothing in this MOU may be interpreted to imply that a participant endorses any product, service, or policy of the other participants, except as specifically set forth in this MOU. No participant will take any action or make any statement that suggests or implies such type of endorsements.

N. No participant in this MOU will be considered to have waived any policy, administrative or legal right hereunder.

O. This MOU may be amended, modified, or supplemented only by the written, signed agreement of the participants.

P. No Member of or Delegate to the Congress, or Resident Commissioner, or official of CAWCD, MWD, SNWA, ADWR, CRB, or CRCN or any Elector or Electors may benefit from this MOU other than as a water user or landowner in the same manner as other water users or landowners.

Q. No participant in this MOU intends for this MOU to confer any benefit upon any person or entity not a signatory to this MOU, whether as a third-party beneficiary or otherwise.

R. This MOU may be executed in counterparts, each of which will be an original and all of which, together, constitute only one MOU.

S. POINTS OF CONTACT

To the extent that written notices and/or requests are undertaken under the terms of this MOU, the participants may be contacted at the following addresses:

RECLAMATION:

Regional Director  
Lower Colorado Region  
Attention: LC-1000  
500 Fir Street  
Boulder City, NV 89005

CAWCD:

Central Arizona Water Conservation District  
23636 North 7<sup>th</sup> Street  
Phoenix, AZ 85024-3801  
Attn: General Manager

MWD:

The Metropolitan Water District of Southern California  
P.O. Box 54153  
Los Angeles, CA 90054-0153  
Attn: General Manager

SNWA:

Southern Nevada Water Authority  
1001 South Valley View Boulevard, MS #485  
Las Vegas, NV 89153  
Attn: General Manager

ADWR:

Arizona Department of Water Resources  
3550 North Central Avenue  
Phoenix, AZ 85012  
Attn: Director

CRB:

Colorado River Board of California  
770 Fairmont Avenue, Suite 100  
Glendale, CA 91203-1068  
Attn: Executive Director

CRCN:


Colorado River Commission of Nevada  
555 E. Washington Avenue, Suite 3100  
Las Vegas, NV 89101  
Attn: Executive Director

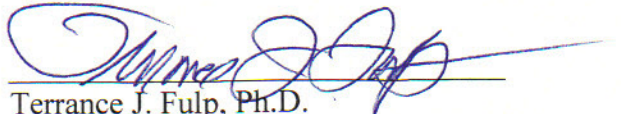
A participant may change its address by giving the other participants notice of the change in writing.

IN WITNESS WHEREOF, the participants hereto have executed this MOU on the day and year first written above.


Approved as to legal sufficiency:

**THE UNITED STATES OF AMERICA**

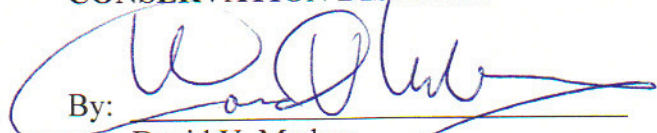
By:   
Robert Snow  
Attorney-Advisor

By:   
Terrance J. Fulp, Ph.D.  
Lower Colorado Regional Director  
Bureau of Reclamation

Approved as to form:

By:   
for Jay M. Johnson  
General Counsel

**CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT**

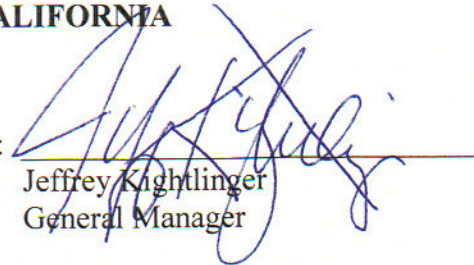
By:   
David V. Modeer  
General Manager

Approved as to form:

**THE METROPOLITAN WATER  
DISTRICT OF SOUTHERN  
CALIFORNIA**

By: \_\_\_\_\_

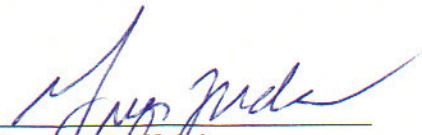
Jeffrey Knightlinger  
General Manager

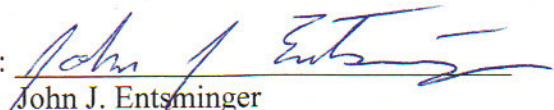




Approved as to form:

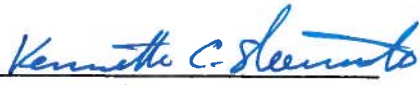
**SOUTHERN NEVADA WATER  
AUTHORITY**

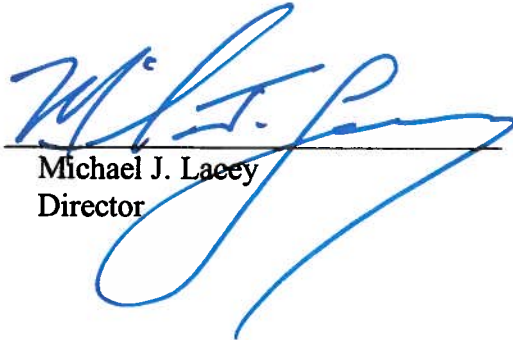
By:   
\_\_\_\_\_  
Gregory J. Walsh  
General Counsel

By:   
\_\_\_\_\_  
John J. Entsminger  
General Manager

Approved as to form:

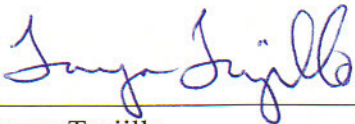
**ARIZONA DEPARTMENT OF WATER  
RESOURCES**

By:   
Kenneth C. Slowinski  
Chief Counsel

By:   
Michael J. Lacey  
Director

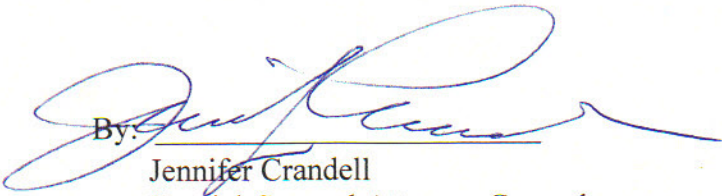
Approved as to form:

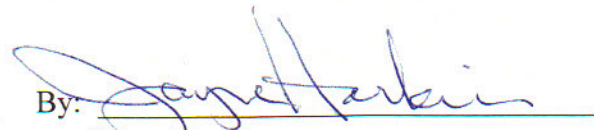
**COLORADO RIVER BOARD OF  
CALIFORNIA**

By:   
Tanya Trujillo  
Executive Director

Approved as to form:

**COLORADO RIVER COMMISSION  
OF NEVADA**

By:   
Jennifer Crandell  
Special Counsel Attorney General

By:   
Jayne Harkins  
Executive Director